

Nov. 17, 1986

Chemical Marketing Reporter

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CMR MARKET INDEX

CHEMICAL MARKETING	Nov. 14, 1986	152.10
REPORTER's market Index of	Oct. 31, 1986	152.13
chemicals and related materials	(100=1974 average), based on	
	Oct. 17, 1986	151.25
97 key commercial chemicals,	Nov. 15, 1986	153.25
appears alongside with data for		
two weeks ago, last month and		
last year		

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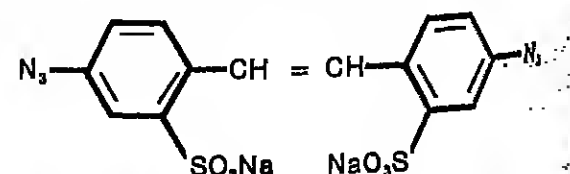
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BUTADIENE: Stocks register steep decline
fall
STYRENE: Pick-up reflects better demand
downtime
PVC: Demand is surging and production
hikes
LINALOOL, LINALYL ACETATE
1986

Chemical Marketing Reporter

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NEWSPAPER

SECOND CLASS POSTAGE

NOVEMBER 17, 1986

Volume 11, Number 46

INSIDE CMR

BUILDING COSTS: Du Pont's Heckert says capital spending projects in the US chemical industry cost too much and take too long. Page 3

UGG-BHOPAL: Carbide says it is confident it can block an Indian court's injunction barring it from carrying out its divestment program. Page 3

GROWTH OUTLOOK: Mon-Santo's economist sees slow steady growth for the US economy to 1986. Major concern to chemicals is trade. Page 5

EPA FEE: US agency proposes a fee schedule of up to \$163,100 to recover the cost of registering new pesticides, but is it legal? Page 7

GOODYEAR ESCAPE: The embattled company gets away from British financier Goldsmith, but has to pay him \$618.8 million to do it. Page 9

CANADA SURVEY: A survey for the Canadian petrochemical industry finds hostile sentiment and a desire for stricter regulation. Page 5

CHEMO-PHOBIA: FDA official says the public's fear of chemicals in foods is misplaced. Wide safety margin of food chemicals is cited. Page 7

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Air Emissions Policy Defined

Environmental Protection Agency completed a seven-year effort last week by issuing final guidelines on the use of emissions trading, or the "bubble," to meet pollution reduction requirements under the Clean Air Act.

The agency's policy, first proposed in 1979, continues to authorize use of environmentally sound bubbles in all areas of the country and is expected to be widely used by states and industry to save pollution-control costs while insuring continued progress toward clean air.

The new guidelines represent a tough but fair policy, says Milton Russell, EPA's assistant administrator for policy, planning and evaluation. "The bubble offers needed flexibility, the ability to respond to changing circumstances and stronger incentives for

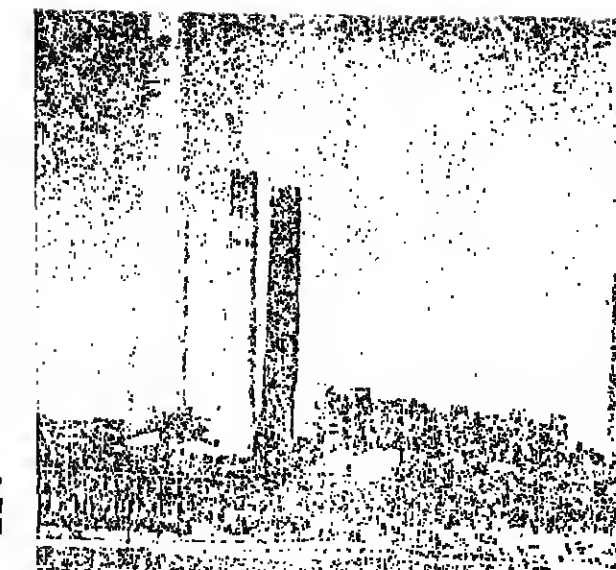
environmental progress."

He said bubbles can encourage innovative emissions control approaches, help reach small or dispersed sources that may be difficult to control directly and secure more reliable, less-polluting changes in industrial processes.

Mr. Russell said the revised emissions trading guidelines "confirm the principle that allowing states and regulated firms to secure equal or better emission reductions at less cost is an important way to help get

Continued on Page 14

AIR EMISSIONS: Target of new 'bubble' policy. The 'bubble' allows managers of existing plants to treat stacks and vents as if they were enclosed in a giant bubble. Initial reaction from Capitol Hill and environmentalists was mostly negative last week.



Carbide Appears Confident About Blocking Injunction

Union Carbide Corporation last week dismissed the possibility that the district court in Bhopal, India, would permanently bar the company from pursuing recapitalization and asset divestment program.

On Monday (November 17), the court issued a temporary injunction blocking such activities, pending a hearing on the Indian government's request for a permanent injunction. The hearing is scheduled for Wednesday (November 26).

"We believe the judge will lift his order when he has had a chance to consider the recapitalization program and planned divestitures, which will significantly strengthen UCC's financial position," Carbide spokesman said last week.

A Carbide spokesman in Danbury, Conn., declined to say what the company would do if the court ruled against it. "That's too unlikely a scenario to comment on," he said.

Recapitalization program involves the purchase by Carbide of \$2.5 billion in debt securities as part of its successful counter to the Bhopal gas leak offer for the company's earlier this year.

An American lawyer representing the Indian government said the company was planning to sell its assets ahead of those of the victims of the Bhopal gas leak two days ago.

The government's bid to block Carbide's recapitalization and divestment programs is viewed as an attempt by Indian officials to pressure the company into increasing its investment in India and to prevent its assets from being sold out-of-court settlement

offer of \$350 million.

Carbide last week complained that the government is trying to prevent the company from defending itself against liability for the Bhopal disaster. "To attempt to require UCC now, as the price of defending itself, to be subject to an injunction that prevents it from improving profits, cash flow and net worth, makes a mockery of the due process of law," the company stated.

In a response to the government's suit, and in an accompanying counterclaim filed in Bhopal court last week, Carbide sought to place liability for the accident on the central government and the State of Madhya Pradesh.

Among other things, Carbide argued that the government forced Carbide to manufacture methyl isocyanate at the Bhopal pesticide plant, was aware of the dangers inherent in MIC production, and restricted the parent company's collaboration with its Indian subsidiary in setting up and operating the plant. The company also argued that the state regulated dwellings near the plant, knowing the dangers posed by the plant.

Carbide also cited a design transfer agreement between the parent company and its Indian subsidiary for the production of MIC-based pesticides which relieves the parent company of any liability for damages, injuries or deaths arising from the subsidiary's use of the designs. The agreement was approved by the central government.

Carbide also disclosed evidence last week pointing to the deliberate introduction of water into MIC storage tank 610, causing the deadly gas leak.

President Signs Drug Law, But With 'Mixed Feelings'

Setting aside "mixed feelings," President Reagan has signed into law a measure allowing exports to foreign countries of drugs not yet approved for use in the U.S. provided they are legal in the other

countries. The new law allows US pharmaceutical companies to begin production of the drugs in the country for sale overseas while waiting for the Food & Drug Administration to approve them for the American market.

Without the legislation, US firms would be forced to set up facilities in foreign countries to produce the drugs for any market. The bill also allows the export of certain tropical diseases treatments not yet approved in the U.S.

Gerald Moschella, president of Pharmaceutical Manufacturers' Association, said the export legislation "greatly strengthens the ability of the US pharmaceutical industry to compete in international markets... The legislation will create jobs in the U.S. stimulate capital investment here and spur ex-

ports. He also said the new law comes as the industry embarks on an exciting era of new product development, and will help the US maintain its position as the world's leading

innovator and producer of pharmaceutical and biotechnology products."

Richard D. Golinva, president of the Industrial Biotechnology Association, said the measure will "ensure America's competitive edge in biotechnology... while preserving the integrity of the administration's non-protectionist policies."

He said the legislation is particularly vital for the many small and mid-sized biotech companies that lack the economic resources to set up shop overseas.

"These companies have been forced to await FDA approval while foreign competitors established market dominance or licensed the technology pioneered by US firms," Mr. Godown noted.

President Reagan signed the bill November 14 saying: "On the one hand, I warmly endorse provisions of this legislation permitting the export of unapproved drugs and biologicals under certain conditions and repealing the Federal health planning authorities."

"On the other hand, I have serious reservations about the portion of the bill that would establish a Federal vaccine injury compensation program."

That portion known as the no-fault provision

Continued on Page 20

Chemical Marketing Reporter

VOLUME 230
Number 21

NOVEMBER 24, 1986

DuPont Chief Says Plants Too Costly

Capital spending projects in the US chemical industry "cost too much and they take too long," according to the top executive of E.I. du Pont de Nemours & Co., who puts capital spending first on his list of challenges the industry will have to deal with successfully if it is to remain competitive worldwide.

Richard E. Heckert, Du Pont chairman and chief executive officer, told members of the Chemical Manufacturers Association, meeting in Chicago last week for the group's thirty-sixth annual chemical industry conference, that the high cost of R&D facilities, product development facilities and commercial plants have a major impact on the industry's competitive position.

"Time and again, I ask myself, why does it take us three years to build a plant to manufacture a product that we've been making for twenty years?" he says.

The Du Pont chairman maintains improvements could be implemented today in the industry's project and construction process that have the potential to reduce the cost of new facilities by 15 to 20 percent.

"A 20 percent reduction can have a real impact," he says. "If instead of making a \$100 million capital investment over three years, you can build the same facility for \$80 million in two years, you can increase the internal rate of return of a typical project in our industry a full 5 percent."

Regarding the high construction costs, Mr. Heckert feels the chemical industry is not entirely blameless. He says the current engineering and construction industry in the US is dominated by practices "nurtured during the post-World War II era by corporate managements more interested in adding capacity than controlling costs."

Rapidly growing markets permitted producers to pass those costs through to consumers and the industry allowed and sometimes even forced high-cost practices to become standard by giving in to "unrealistic demands" of union labor rather than accept delays due to strikes, Mr. Heckert says.

But the industry had to pay for these policies when the inflationary spiral of the 1970's hit at the same time that foreign competitors entered the picture with products that met or exceeded those of US producers in terms of

cost and quality. "Yet we continue to sap our competitive strength with high project and construction costs," he says.

However, there may be a blueprint for turning the situation around. Mr. Heckert says the Business Roundtable's construction industry cost effectiveness project offers remedial actions that could vastly improve engineering, procurement and field construction processes.

Although the AFL-CIO building trades have not accepted the plan, engineers and construction contractors have, and with the emergence of open shop contractors as a dominant force in US major construction, free market forces are expected to bring labor costs back into line. "As you well know, this is happening," Mr. Heckert told the CMA members.

At the same time, he acknowledges that the one group standing to gain the most from the change — owners and managers — have so far responded with only token actions. The Du Pont executive says owners will have to "push for performance in this area," adding that "the bottom line on capital spending is that we'd better get serious about it or it will ultimately do us in."

He cites customer orientation, cost reduction

Continued on Page 21



Richard E. Heckert

PCB Fine of \$1.5 Million Levied Against an Importer and Exporter

Environmental Protection Agency last week issued a civil complaint and assessed a \$1.5 million fine against De'Longhi America, Inc., for importing for domestic sale radiator heaters that contained oil contaminated with low levels of polychlorinated biphenyls (PCBs). De'Longhi also exports the PCB-containing heaters without EPA authorization. Both actions are in violation of the Toxic Substances Control Act. The importing of PCB's for use in the US has been largely prohibited since 1979 because of the risks PCB's pose to human health and the environment.

In April 1988, EPA was notified by the Canadian government of the presence of PCB-contaminated oil in De'Longhi radiators. EPA immediately stopped imports of certain oil-filled radiator heaters pending analysis of their oil content.

Of the samples collected by EPA to date, only oil samples from De'Longhi heaters have been found to contain PCB's. Up to 50 percent of the De'Longhi heaters may be contaminated with low concentrations of PCB's, according to the agency.

Since May 1986, the US Customs Service has cooperated with EPA and its regional offices in an effort to sample and test new shipments of De'Longhi radiators. No PCB's have been detected in recent samplings of De'Longhi radiators and De'Longhi America, Inc., has agreed to certify that each shipment of heaters entering the US will not contain PCB's.

Studies have linked PCB's to chronic health effects in some species of animals and aquatic life. PCB's accumulate in the body and are stored in fatty tissues. Significant exposures could cause gastric disorders, skin lesions, tumors and harm to the reproductive cycle.

Owners of De'Longhi heaters might be exposed to PCB's only if their particular model contained PCB's and if the oil it contained actually leaked out during use.

Ethylene Plant Slated For Taiwan 1989

Formosa Plastics Corporation has awarded Stone & Webster Engineering Corporation a contract to supply proprietary technology and basic engineering and design services for an ethylene plant to be built near Linyuan on Taiwan's southeastern coast. A fast-track schedule calls for the unit to go on line early in 1989.

The 450,000-metric-ton-per-year plant will supply olefins such as ethylene and propylene to downstream manufacturing facilities. Ethylene and propylene are used in the manufacture of polymers and as intermediates in the production of fibers and plastics.

The technology to be employed is Stone & Webster's Ultra-Selective Conversion (USC) Process. Highly efficient USC pyrolysis furnaces permit cracking at various severities, and are thus capable of achieving a wide range of product combinations.

Formosa Plastics Corporation, based in Taiwan, is a diversified manufacturer of plastics and fibers and the largest producer of PVC plastics in the world.

Monsanto Launches Aspirin Investigation

In response to a complaint filed by Monsanto Company, the Federal government has launched countervailing duty and antidumping investigations into imports of acetylsalicylic acid (aspirin) from Turkey.

The investigations concern the import of aspirin containing no additives other than starch, and not imported in tablets, capsules or similar forms for direct human consumption, which are alleged to be subsidized by the government of Turkey.

International Trade Commission will determine whether there is a reasonable indication that US aspirin producers are being damaged by the Turkish imports which are allegedly being sold in the US at less than fair value.

ITC is obliged to complete its preliminary investigation by December 15. Monsanto filed its complaint on October 31.

Huntsman Completes Russtek Acquisition

Huntsman Chemical Corporation has completed the final purchase and full ownership of Huntsman Russtek Polymers, Inc., a manufacturer of expandable polystyrene. Huntsman Russtek, formerly owned 50/50 by Huntsman Chemical and Placements Russek, Inc., will now market all of its products through Huntsman Chemical Corporation.

The existing facilities in Mansonville, Quebec, Canada and Rome, Georgia, in conjunction with a previously owned Huntsman plant in Peru, Illinois, will continue to provide expandable polystyrene products for the North American market.

Huntsman Chemical Corporation, an independent and privately held chemical company, claims to be a world leader in the production of polystyrene and one of the largest manufacturers of expandable polystyrene in North America. Huntsman is also a supplier of styrene monomer for captive use and the merchant market.

Jon M. Huntsman, chairman and president of Huntsman Chemical Corporation stated, "We are pleased to now have full operating control of this portion of our business and look forward to building a stronger relationship with our valued customers."

Henley, ABM Cleared On Confidential Data

Henley & Company, Inc., a subsidiary of Boehringer Ingelheim Corporation, Ridgefield, Connecticut, and ABM Chemicals, Ltd., a subsidiary of Rio Tinto Zinc, the metals and chemicals multinational, presented their defense on November 13, 1988 at the Supreme Court of New York against the contention by Contract Chemicals, Ltd. that they had disclosed or used confidential information (CMR 11/3/88, pg. 28).

The court dissolved its previously temporary restraining order and refused to grant Contract Chemicals, Ltd.'s motion for a preliminary injunction.

The court held that CCL had failed to establish a likelihood of its success on the merits at trial, failed to establish that the information was exclusively to CCL or was disclosed by Henley or used by ABM.

Kerr-McGee Shrinks Soda Ash Production

Soda Products Division of Kerr-McGee Chemical Corporation plans to consolidate and shrink the soda ash production of its three-plant chemical-processing complex in Seaford Valley, Calif. Soda ash production at the company's Westend plant, which has been in operation since 1928, will be phased out by the first quarter of 1989.

Soda ash will continue to be in the primary product from the Argus facility. The consolidation will reduce the company's soda ash production by approximately 100,000 tons per year.

The Westend plant will continue to produce boron and detergent-grade sodium sulfate products.

LAB Unit for India

UOP Inc. has licensed to Reliance Industries Ltd. of Bombay, India, a complex for the production of linear alkylbenzene (LAB), a prime ingredient for the production of biodegradable detergents. Under the agreement, UOP will provide a "Pacoli" unit and a detergent alkylate unit. The complex, to be located near Bombay in Patalganga, will be capable of producing 50,000 metric tons per year of LAB from a linear paraffin feedstock.



Frank E. Shaeder Jr., who has been named vice president, international, for GAF Corporation's chemicals business.

Rohm and Haas Sets Acrylic Sheet Unit

Rohm and Haas Company will begin producing acrylic sheet at a new plant in Matamoros, Mexico, during the first quarter of 1989, using the company's proprietary melt calendaring (MC) process.

Commenting on the development, John R. Frazier, the company's business manager for sheet products, said establishment of a plant close to Rohm and Haas's 880-million-pound methyl methacrylate plant at Houston, Tex., "improves the company's ability to serve acrylic sheet customers while remaining competitive against import pressures from developing countries."

Rohm and Haas has been gradually converting all of its acrylic sheet capacity to lower cost processes. The MC process was introduced in North America in 1981 at the company's Morrisburg plant near Toronto, Canada. An installation at Kensington, Conn., followed in 1983 and an 18,000-ton expansion at that site early this year made it the world's largest continuous acrylic sheet plant, Rohm and Haas says.

Shell Forms Venture For Epoxy in Venezuela

Shell Quimica de Venezuela C.A. and Corporación Grupo Quimico C.A. have agreed to form a joint venture company for the manufacture of "Epikote" epoxy resins in Venezuela. The new company, Epoxiquim C.A., will be owned 40 percent by Shell Quimica and 60 percent by Grupo Quimico and will construct a plant at Valencia, at a cost of about \$4 million, for start-up at the beginning of 1989.

Grupo Quimico, one of Venezuela's largest corporations, is pursuing policies aimed at developing new technologically sophisticated products and to substitute for imports. It produces a range of paints, industrial finishes, organic and inorganic pigments, surface coatings and synthetic resins and is the country's largest user of epoxy resins.

Shell Quimica, which markets Shell chemical products in Venezuela, will market most of the output of the new plant.

Shell companies are the world's largest manufacturers of epoxy resins and are major suppliers of the raw materials.

Mallinckrodt Expands

Mallinckrodt, Inc., a wholly owned subsidiary of International Minerals & Chemicals Corporation, will expand its Diagnostic Imaging Services (DIS) network of domestic nuclear pharmacies. The plans call for tripling the number of existing facilities over the next two years.

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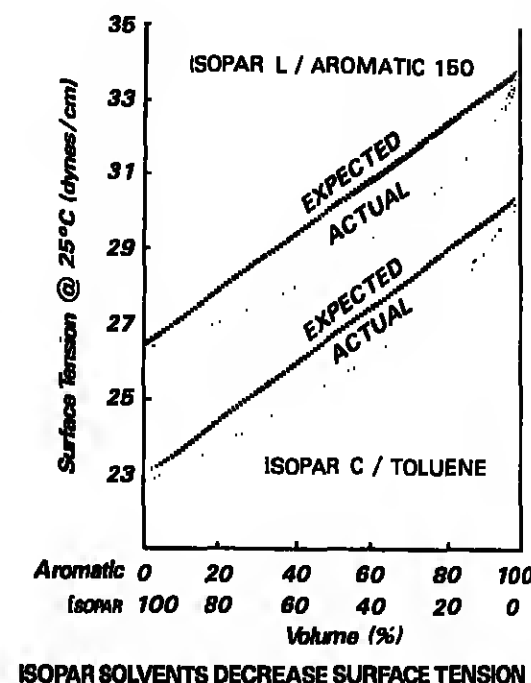
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Gary D. Corson, who has been named director of chemical purchases at Eastman Chemical Products, Inc.

Superfund Unit Is Established By the Senate

Sen. Frank Lautenberg (D-N.J.) has been appointed chairman of a new watchdog subcommittee to assure compliance with superfund and other Federal environmental laws.

The subcommittee, one of five on the Senate Environment and Public Works Committee, will also have legislative jurisdiction over superfund. Therefore, all legislation affecting superfund must pass through the new panel.

The Superfund and Environmental Oversight Subcommittee, set up at Sen. Lautenberg's request, was created primarily to assure that the new superfund law is fully complied with.

"We've recently written some tough laws," says the Senator. "Now we need oversight to assure compliance with the new laws and the ones already on the books. That is why I pushed for the creation of this new subcommittee."

The watchdog panel will have oversight responsibility over all issues under the Environment and Public Works Committee, including landfill regulation under the Resource Conservation and Recovery Act, the Safe Drinking Water Act, Clean Water and Air acts, and ocean pollution.

Toxic Chemicals Get New Limits From US Agency

Environmental Protection Agency has issued final regulations establishing a threshold quantity for 402 chemicals found on the agency's list of extremely hazardous chemicals.

The rulemaking action was required within 90 days of enactment of the new superfund legislation, signed into law by President Reagan October 17.

EPA says any facility where an extremely hazardous substance is found in excess of the threshold planning quantity is required to notify its state and local community emergency preparedness officials by May 17, 1987.

In addition, the rule also codifies the reportable quantity levels and notification requirements for facilities with extremely hazardous substances present.

The regulations continue the process, initiated last November in EPA's chemical emergency preparedness program interim guidance, to foster preparedness against chemical accidents at the local level.

Pesticide Registration Could Cost \$163,100 Under Proposed Fee

Environmental Protection Agency is proposing to charge pesticide manufacturers fees of up to \$163,100 for the registration of their products—a plan strongly opposed by the chemical industry.

The agency says the fees would cover some of the costs now incurred by EPA in reviewing and registering pesticides. The recovered fees, expected to approach \$18 million annually, would be deposited in the general treasury.

Currently, fees for establishing tolerances or permissible pesticide residue levels are the only Federal costs paid by companies that register or license pesticides. These tolerance fees recover \$1 million to \$2 million per year, according to EPA.

Scott Ferguson, vice-president and general counsel of the National Agricultural Chemicals Association, says the industry will challenge the registration fees because it believes EPA lacks the authority to impose them.

EPA says it is proposing the fees under the Independent Offices Appropriation Act, which authorizes agencies to establish user fees.

"We have considerable reservations that EPA has authority under that law or any

other Federal law to impose these kinds of fees," says Mr. Ferguson.

As part of a compromise legislative agreement with environmentalists on amendments to the Federal Insecticide, Fungicide and Rodenticide Act, NACA supported a one-time fee of \$150,000 for the re-registration of older pesticides that are already on the market but have never been adequately tested for safety.

The FIFRA bill died in the final hours of the legislative session due to disagreements over other issues.

"I think the House and the Senate will have some interest in what EPA is proposing now," says Mr. Ferguson.

The proposed fee system is based on the average EPA costs of processing and reviewing certain registration applications: new pesticides, new registration of previously registered chemicals, new biochemical or microbial pesticides, experimental use permit to field test a pesticide chemical, and food additive tolerance permits.

Before a pesticide can be distributed for sale in the US, it must be registered with EPA under FIFRA. In order to do so, manufacturers are required to provide the agency with health and ecological data.

On the basis of a scientific review of the

Continued on Page 17

Jordan Phosphate Backing?

The US Export-Import Bank is considering \$20 million in credit support for the Jordanian phosphate industry, a move which critics say would be a direct violation of a new congressional mandate.

Gary D. Myers, president of Fertilizer Institute, describes the timing of the loan's consideration as "more than pure coincidence," noting that Congress is not in session.

Approval of the \$20 million loan to the Jordan Phosphate Mining Company would contradict the Eximbank reauthorization bill passed by Congress last month, Mr. Myers says.

The measure bars the use of Eximbank funds to establish or expand production of another nation's export commodities if such products are in world surplus, if they compete directly with similar US products, or if such assistance would cause

substantial injury to US producers.

"Last month, Congress pointed to past Eximbank phosphate loans as particularly injurious to US producers, yet Ex-Im seemed determined to challenge the Congress by considering this latest Jordanian request," says Mr. Myers.

Jordan is seeking the loan in order to purchase phosphate mining equipment. The request comes at a time of massive worldwide phosphate oversupply and a severely curtailed US phosphate industry. A United Nations/World Bank working group estimates current phosphate oversupply at 4 million tons.

Jordan annually mines approximately 9.3 million tons of phosphate rock, but consumes only 20,000 tons domestically. The remaining tonnage competes directly with US phosphate rock exports.

Surplus Could Be Detrimental Official Tells Manufacturers

A top Reagan Administration trade official says it may not be desirable—or possible—for the US to run a trade surplus.

"It's clear you can't continue to run a \$170 billion trade deficit," Deputy US Trade Representative Michael Smith told the National Association of Manufacturers Thursday.

"But I'm not sure that it's right to say the US must have a trade surplus, aside from whether it is obtainable in today's world," he added.

Mr. Smith suggested that a large US trade surplus "would be just as much trouble" for the world economy as its huge deficit is today and he questioned whether the world could absorb so many American exports.

He said the administration's plans for trade legislation next year "have not been fully developed but are under discussion."

Mr. Smith stressed that while the administration would like renewed authority to negotiate a new international trade agreement as part of a trade bill, it will not accept legislation if "it becomes a Christmas tree."

US Trade Representative Clayton Yaiter welcomes the authority to negotiate a new world trade agreement but we're not going to sell our soul," Mr. Smith remarked.

"We don't want it with all sorts of conditions that would be counterproductive to the goals" of liberalizing world trade.

US negotiating authority expires at the end of 1987 and most trade experts agree it would help the US's bargaining power if it had new long-term authority going into the talks, which are expected to last at least four years.

The purpose of the talks are to update and revise world trading rules set out in the General Agreement on Tariffs and Trade (GATT), to reduce protectionism, and to expand world markets.

Although the chemical industry is one of the few US businesses still providing a surplus to the nation's overall trade deficit, the surplus has been declining annually.

The chemical trade balance has dropped 37 percent since 1980, when the US exported \$12.2 billion more in chemical products than it imported. The Commerce Department estimates the chemical trade surplus will diminish again this year.

Ron Lang, president of the Synthetic Organic Chemical Manufacturers Association, recently said he believes the upcoming round of talks, expected to begin in Geneva, Switzerland in January, will be the most important ever for the chemical industry, possibly affecting its profitability and growth.

FDA Man Decries Fear Of Chemicals

US consumers worry too much about the chemicals used in their food and should instead be more concerned about the growing problem of disease-causing microbes in the food supply, says the government's top food safety official.

"There is in this country something that can only be called 'chemophobia,'" says Sanford A. Miller, director of Food & Drug Administration's Center for Food Safety and Applied Nutrition. "People are simply afraid of anything with the little chemical bestowed on it," he says.

Mr. Sanford says a recent FDA study of the most widely-used and best-tested food additives showed that the allowed levels for most of them had safety margins far in excess of the minimum necessary to protect the public. Yet, he adds, convincing the public of that is extremely difficult.

While the agency has poured a great deal of its resources over the last 30 years into evaluating the safety of chemicals and in determining exposure levels of chemical contaminants in foods, it has not paid adequate attention to monitoring microbiological hazards, says Mr. Sanford.

"What has become apparent is that the hazards associated with chemicals in foods are very low—in large measure because of the actions we've taken. What we're now observing is an increasing number of illnesses associated with food-borne disease, some of which are associated with an increasing laxity in sanitation," Mr. Sanford notes.

"The conclusion we came to," he says, "is that we have to pay a great deal more attention to microbiological hazards."

Mr. Sanford says FDA recently reviewed the safety data on 180 of the most heavily-used and best-tested food chemicals and found that the safety margin for more than 90 percent of the compounds was a thousand-fold or more and, on the average, was ten thousandfold.

"This is a tremendous margin of safety, particularly when you consider that current exposure for humans is very low and the toxicity of these things is not very high," he says.

Public concern about food additives, preservatives and pesticides is largely misplaced, according to the FDA official. "Most people don't realize how safe the food supply is from a chemical point of view," says Mr. Sanford.

Drexel Financing Is Big Question In Revlon Bid

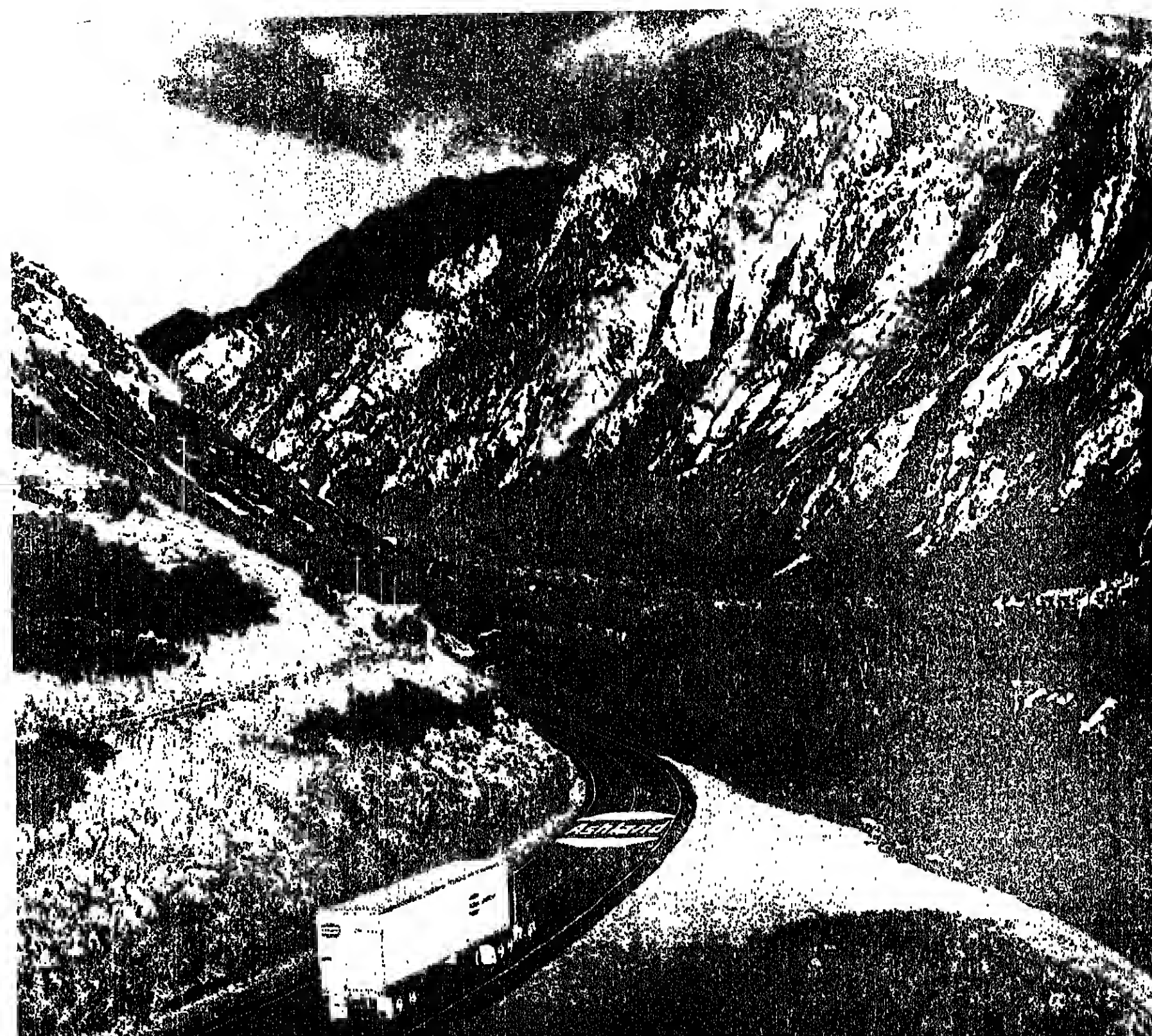
Drexel Burnham Lambert Inc. has consistently demonstrated its ability to raise high-cost financing for mergers, but because of the storm raging around the Ivan Boesky insider trading case, the stock market last week registered a little bit of doubt about Drexel's ability to finance Revlon Inc.'s attempted takeover of Gillette Company.

Late last week Revlon said that Drexel Burnham had reaffirmed its commitment and ability to finance the \$4.12 billion attempted takeover of the Boston, Mass.-based manufacturer of razor blades, toiletries and other consumer products.

A day earlier, when it was disclosed that Drexel is the subject of investigations by Securities & Exchange Commission relative to the Boesky and similar dealings, the price of Gillette's stock fell more than \$7 per share, evidencing doubt that the merger would be consummated.

In litigation filed early in the week, Gillette charged that Ronald O. Perleman, Revlon's chairman, illegally informed insiders in the market of his plans to attempt an acquisition of Gillette.

Mr. Perleman replied that the charges are "a desperate and untruthful attempt to taint this offer in the light of totally unrelated events of the past week."



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News Capsule

Immunex Pilot Plant

Immunex Corporation plans to build a \$4 million pilot plant to produce pharmaceuticals for use in FDA clinical trials and expanded research. The development facility will be funded and owned by Immunex Ventures, a joint venture of Immunex and Eastman Kodak Company. Immunex is developing products based on human immune system modulators for possible application in treatment of cancer, arthritis and immune system disorders.

EPA States Reviews

Environmental Protection Agency's interagency testing committee has named chemicals for priority review within the next year. They are: C.I. Disperse Blue 33, isopropanol, methyl ethyl ketone, and methyl tert-butyl ether. Trinitrophenyl phosphate was also designated for review within 12 months. It was cited for review last year, but not within the one-year time limit.

Blossay Ends Talks

Blossay Systems Corporation has terminated negotiations to sell its toxicology facility in Decatur, Ill. The company previously announced that it expected to enter into a definitive agreement to sell the facility by mid-December. Blossay says it is not presently negotiating with any parties for the sale of the facility.

Degussa Opens Center

Degussa Corporation has officially opened its new applied research and technical service facility in Allendale, N.J. Degussa actually started operations there a year ago, and had been completing construction modifications and equipment installation since then. Functions performed at the facility include customer formulations and product testing, quality control and technical support and safety advice for products made by the company's chemicals and pigments divisions.

Carbide Unit Moves

Union Carbide Corporation, a subsidiary of Union Carbide Corporation, has moved its corporate headquarters from Dublin, Ohio, to Charlotte, N.C. The company was proprietary technology to reclassify PCB-containing transformers to non-PCB status.

CPC Plans Sale

CPC International Inc. is offering its European corn wet milling business for sale. The business currently accounts for about \$1 billion in net sales. Sale of the unit is part of the company's restructuring strategy to seek future growth mainly from its US and worldwide grocery products businesses.

Sun, Dainippon Agree

Sun Chemical Corporation and Dainippon Ink & Chemicals, Inc. have signed a definitive agreement for the sale of Sun's graphic arts materials group to Dainippon for approximately \$550 million in cash. Execution of the agreement with Dainippon has been a pre-condition to Sun's proposed merger with Chromalloy American Corporation. The merger is subject to a definitive merger agreement and approval of shareholders.

Ciba-Geigy Spill

A Ciba-Geigy plant in Switzerland recently emitted a phenol-laden cloud into the atmosphere last week, heightening public concern about the chemical industry. The Ciba-Geigy plant is near the Schaffhausen warehouse in Switzerland, which was responsible for the release of toxic chemicals into the Rhine River two weeks ago.

ROP Licenses MTBE Unit

ROP Inc., a unit of Allied-Signal Inc., has granted a license to Compania Espanola de Petroleos de Spain for the construction of a unit to produce 45,000 metric tons a year of MTBE at CEPSA's refinery near Algeciras. The MTBE technology was developed by Huelia AG of West Germany.



Mario Concha, who has been named vice-president, international, for Occidental Chemical Corporation's overseas operations. The appointment follows OxyChem's recent acquisition of Diamond Shamrock Chemicals Company.

Yves St. Laurent, Of France, Buys Charles of The Ritz

Squibb Corporation, the Princeton, N.J.-based maker of pharmaceuticals and consumer products, which last Summer put its Charles of The Ritz fragrance facility up for sale, settled on a buyer last week—Yves St. Laurent, the Paris clothing design firm.

St. Laurent, with the help of an Italian investor, Carlo De Benedetti, was able to outbid Avon Products Corporation and several others.

Preparation for the St. Laurent bid was made last month when Cerus SA, an investment firm in France, acquired a 25 percent stake in Saint Laurent, a move that provided St. Laurent with the financial muscle needed to compete against the world's largest cosmetic company.

Cerus is controlled by Mr. DeBenedetti, the chairman of Ing. C. Olivetti & Co.

The acquisition of Charles of The Ritz will be made by a new company to be established by Cerus and St. Laurent, which will be capitalized at \$175 million, with \$25 million provided by Mr. DeBenedetti.

Alcoa to Acquire Aerospace Firm In Los Angeles

Aluminum Company of America, Pittsburgh, Pa., has agreed to acquire TRE Corporation, Los Angeles, a producer of light-weight metallic and non-metallic structures for aerospace and defense applications and of home building products.

Alcoa will make a cash tender offer for all common shares of TRE for an aggregate of \$46.38 for each common share and related TRE obligations. Dealer/manager for the offer, which has been approved by TRE's directors, will be First Boston Corporation.

The acquisition would give Alcoa, one of the country's three largest producers of aluminum, additional support for its strategy to become a worldwide supplier of engineered materials and systems.

TRE's strengths are said to be in technology for manufacturing advanced aerospace, marine and defense structures. These have been consistently identified as priority areas for Alcoa's growth strategy, stated Charles W. Parry, Alcoa's chairman and chief executive officer.

Goodyear Buys Out Its Hostile Pursuer

Goodyear Tire & Rubber Company, Cleveland, Ohio, has bought out its hostile pursuer, the international financier Sir James Goldsmith, at a handsome profit for Sir James, and has also scheduled a massive buyback of its shares that will give its own stockholders a chance to benefit also.

Together, the two stock purchases will total nearly 50 percent of the company's outstanding shares, but the maneuvers, as they have for other companies, should get Goodyear home free.

The big buyback from the public is similar to merger defenses successfully employed by Union Carbide Corporation, Phillips Petroleum Company and Unocal Corporation, while the buyback from Sir James is the "greenmail" route taken several years ago by Ferro Corporation and Penwalt Corporation against hostile pursuers.

Goodyear agreed to pay Sir James \$49.50 per share for his 11.5 percent stake in the company. This total of \$618.8 million will give Sir James a tidy profit in the \$95 million range.

On the public side, Goodyear will make a tender offer for 40 million shares at \$50 a share, or a total of \$2 billion.

The settlement with Sir James ends a

merger contest that was rapidly expanding into a social and political issue, as did the acquisition of Marathon Oil by United States Steel Corporation (now USX), about three years ago. In this case, the resentment was aggravated by the fact that Sir James is a European.

In Congress, several lawmakers criticized the Reagan Administration for its hands-off policy and said Congress must take away some of the weapons corporate raiders use when firms like Goodyear face a hostile takeover bid.

At a House Judiciary subcommittee hearing last week on hostile takeovers and their impact on competitiveness, Goodyear chairman Robert Mercer endorsed Federal laws to clamp down on hostile takeovers.

"The laws have to be changed to eliminate this approach to American industry," he said.

"The administration's 'hands-off' approach doesn't make any sense," said Sen. Howard M. Metzenbaum (D-Ohio). "There are specific steps Congress can take early next year."

"This committee hearing is the first step in asking you for protection from the free capital market," Mr. Goldsmith told the panel. "The appropriate response to competition is

Continued on Page 24

Dioxin Threat Overstated?

American and Italian researchers say they have found that dioxin caused no apparent serious harm to children exposed to the toxic chemical by an industrial accident.

The scientists report that among 1,500 youngsters examined, those exposed to the highest concentrations of the dioxin compound TCDD had slight abnormalities in liver function and fat metabolism, but these disappeared over time.

The children were between the ages of six to ten when several hundred grams of dioxin were released into the air from a plant near Seveso, Italy, in July 1976. Some suffered chloracne, a skin rash, at the time.

"While we can say that in children of Seveso the acute phase of intoxication by TCDD passed with no appreciable consequences, it remains to be established over a longer period of time whether there will

be a higher incidence of tumors," the scientists wrote in the *Journal of the American Medical Association*.

Since the accident, 30,000 people living downwind of the plant have been given regular medical examinations. A cancer registry has been set up to monitor tumor development.

Dioxin is a byproduct of manufacturing processes that create herbicides, pesticides and other chemicals. On the basis of animal studies, scientists have concluded the substance can cause cancer in humans, particularly a form that attacks muscle, fat, nerves or connective tissue. Most other dioxin studies have concentrated on adults.

The study was conducted by Dr. Paolo Mocarelli and colleagues at the University of Milan in Italy, and others at the University of Pennsylvania and American University in the US.

Greenwell Montagu Boosts Rating on Montedison Stock

Greenwell Montagu Securities, of London and New York, has boosted its rating on the stock of Montedison SpA, of Italy, from hold to either buy or hold, and has lowered its investment opinion on BOC Group (formerly British Oxygen Company) Hoechst AG, Laporte Industries Ltd., Rhone Poulenc SA and Yorkshire Chemicals PLC.

Improved fundamentals of Montedison's share, relating to the company's strong market positions in its broad line of chemicals, consumer products and consumer services, will now be given greater recognition by the market, stated Start Wamsley, David Ingles and Judy Shaw.

This recognition has been delayed recently by the sale of shares to take profit on a rights issue and market speculation about Montedison's now successful campaign to acquire Fondiaria against the opposition of much of Italy's financial establishment, the analysts noted.

BOC's shares have been marked down from hold or buy to simply hold because the shares have run up to a price level that will not be easily improved upon. Hoechst's mar-

ket outlook actually has improved with plans for the Celanese merger, but the possibility of another rights issue could restrain the share price for a while, the analysts said.

Laporte, previously rated hold, has been marked down to hold or sell because the price has risen significantly in response to the purchase by Solvay of an interest in the company, and it is now likely that profit taking will set in, the Greenwell Montagu analysts comment.

Rhone Poulenc and Yorkshire both have been lowered from hold to hold or sell. On the French company, the analysts are skeptical about the planned acquisition of Union Carbide Corporation's agricultural chemical operations, and they also want to see how well the new management works out before making a commitment. Yorkshire is rated satisfactory on fundamentals, but the shares have had a strong run-up and the next move is likely to be profit taking, it is commented.

The Greenwell Montagu analysts have reaffirmed previous buy recommendations on BASF AG, Bayer AG, Cookson Company and Imperial Industries Ltd. Rated sell are Fosco Minsep and L'Air Liquide SA.

JPM 100 116

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OILS, FATS & WAXES

Cottonseed Oil Expected To Tighten This Crop Year

Production of cottonseed oil in the US is expected to be off by 25 percent this year, according to Department of Agriculture figures. USDA attributes this low forecast to a 1986 government program to reduce cotton acreage in the US. People in the industry, meanwhile, feel that the cotton oil market will be additionally tightened by competition for cottonseed from the dairy feed industry.

The Foreign Agricultural Service (FAS) forecast for US cotton oil production stands at 383,000 metric tons (MT) for this year, down 25 percent from the preliminary estimate for last year's crop of 484,000 MT.

The basis for the figures is the success of the 1986 Upland Cotton Acreage Reduction Program, according to FAS. The program called upon cotton farmers to cut their planted acreage by 25 percent, in an effort to avoid repeating the previous year's surplus of flat cotton, used in textile applications, according to USDA sources. Sources note that the program met with nearly 100 percent participation by the nation's cotton farmers.

The resultant reduction in cottonseed is expected to be aggravated by competition from dairy farmers using seed for feed. This has been a growing problem for cotton oil producers, who are finding it increasingly difficult to the cattle industry, sources say.

FAS is calling for a reduction in the seed tonnage going to cattle feed this year, from last year's estimate of 1.7 million tons to the current forecast of 1.5 million tons. Despite this reduction, the percentage of seed used for feed is expected to climb from last year's already higher-than-usual 35 percent. "My guess is it will be closer to 45 percent," says an industry source.

LESS OIL AVAILABLE

Consequently, the amount of oil available this year is expected by some to be lower than the crop reduction would indicate. "The oil reduction will be more like 35 to 40 percent," says a producer, who goes on to say that "the government figures don't take into account that the seed yield is down."

The tight availability of oil will not be in conflict with volume of demand, which is currently quite low, sources say. Buying had been strong a few weeks ago, but it eased off when the price of competing oils came down.

"The market is very, very quiet," says a source, who says that buyers and sellers are currently about 1 cent apart. Another source predicts that the cotton oil price will come up some more in the near future. "Cotton oil will

become a product like peanut oil," he says, indicating that it will become a relatively high-priced specialty oil. The current pricing and the tight supply situation make it unlikely that the competitive position of cottonseed oil will improve very much this year.

FISH OILS

MENHADEN OIL — The price of crude menhaden oil is quoted at 12c. per pound on the Atlantic Coast, works, and at the Gulf it is quoted at 13c. per pound, same basis. Supplies are said to be limited at the moment, with US fisheries out of production season.

PRICES TRENDLINES

WEEK ENDING NOV. 21, 1986

CHANGES/UP

Cottonseed oil, NY, 14c. per lb.
Lard, loose, bulk tank, Chicago divd., 14c. per lb.
Peanut, 50% bulk, 8E, 35 per ton

CHANGES/DOWN

Corn oil, Midwest, 14c. per lb.
Lined, extracted, 84% bulk, Minn., 85 per ton
Palm oil, NY, 14c. per lb.
Peanut oil, Southeast (restricted), 1c. per lb.
Soybean, 44% bulk, Decatur, 33.50 per ton
Soybean oil, Decatur, 14c. per lb.

OILS, FATS INDEX

The Oils, Fats & Waxes Index reflects the prices of 11 representative materials in this sector and the quantity of each produced in 1985.

Nov. 21, 1986 80.47
Nov. 14, 1986 81.81
Oct. 24, 1986 80.48
Nov. 22, 1985 84.96

Chemical Prices Start on Page 28

plies are said to be limited at the moment, with US fisheries out of production season. The domestic market is relatively strong, says an industry source, who cites growing interest in the health benefits of fish oil as a primary reason. Export business is said to be slow, as shipping has just been completed on previous orders to Europe.

VEGETABLE OILS

SAFFLOWERSEED OIL — The extent of the damage to the safflowerseed crop has become clearer, says a source, who estimates that more than 70 percent of the crop in the Montana area has sprouted. This premature sprouting was due to heavy rains earlier in the season, and has resulted in suppliers being reluctant to put their material on the market, in order to protect their low supplies.

While sprouting does not necessarily render the seed unusable, it does require that the seed be processed to a greater degree, say an industry source. Some buyers have complained of darker oil, a typical result of the kind of damage experienced by this crop. Paint and varnish producers need the oil to be light in color so as not to conflict with the pigments in their formulations.

At this point, the majority of the crop oil has been committed, a source says, with most of the free oil now being produced by damaged seed. "Most of this oil (from sprouted seed) will have to be mixed with good oil," the source says. Since most buyers' near term needs have been met, they are said to be staying away from the market at present. The price for non-break oil in tanks in N.Y. is currently quoted at 50c. per pound, and edible oil in drums is priced between 78c. and 80c. per pound, delivered in N.Y.

SOYBEAN OIL — Soy oil pricing has been level, as demand is beginning to slack off. Wholeshipments of oil are said to be steady at the moment, as past sales are filled, new orders are hard to come by, according to an industry source. "Without new orders to stimulate the market, things are very slow," says a source.

FRIDAY SPOT PRICES

MARKET CLOSE NOV. 21, 1986

CRUDE VEGETABLE OILS

Cotton oil, NY 21 1/4
Cotton oil, Pacific 20
Cotton oil, Midwest 20
Cotton oil, Valley 17 1/2
Lined oil, Minneapolis 28
Palm oil, NY 18
Peanut oil, Southeast (restricted) 29
Soybean oil, Decatur 14 1/8

REF. VEGETABLE OILS

Cotton oil, NY, NY 28
Corn, jumbo tank, NY 28 1/2
Cottonseed oil, jumbo tank, NY 27 1/4
Peanut oil, jumbo tank, NY 27 1/4
Soybean oil, NY 18 1/2

OILMEALS

Cottonseed, 14% bulk, Memphis 150
Lined, extracted, 34% bulk, Fargo 108
Peanut, 50% bulk, 8E, Alabama 170
Soybean, extracted, 44% bulk, Decatur 151.50

FATS & GREASES

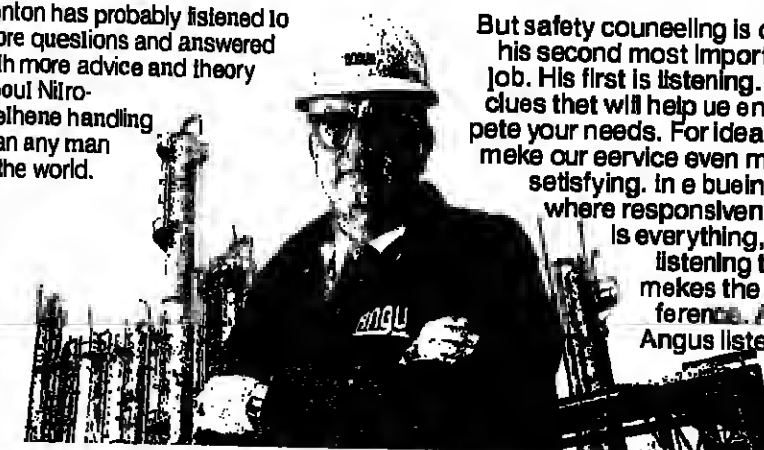
Cream, white, choice, tank, divd., NY 10 1/4
Lard, white, bulk maximum 10%, 1/4 tank, NY 13 1/4
Lard, white, bulk tank, divd., Chicago 12 1/4
Tallow, inedible, fancy, tank, divd., NY 12 1/4
Tallow, inedible, 50%, tank, divd., NY 12

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PET Market Seen Rising To \$2.2 Billion

With a 5 to 6 percent annual growth rate, the polyethylene terephthalate film market, now estimated at \$1.8 billion, will increase to \$2.2 billion by 1990, according to Andrew Eldib, president of Eldib Engineering & Research, Inc., Berkeley Heights, N.J.

Imports make up an estimated 10 to 15 percent of US PET film consumption. Since 1984 Japanese and Korean PET film makers have increased their market shares, while French and English exporters have lost ground, according to a study on the US PET film business by Eldib.

Switzerland is the only European competitor to increase its share of the US PET film market. In many cases consumers reported that they could get imported film cheaper and better in quality than domestic film, Dr. Eldib says.

Dr. Eldib believes that Korean PET film makers will claim a larger and larger part of the pie as their production capacity grows. In spite of recent currency adjustments, producers from Japan will keep their prices competitive in order not to lose market shares. He expects PET film imports to increase with Japanese producers in the forefront of the market.

To counter the effects of the strong yen, Japanese PET film makers are scrambling to team up with US end-users in joint ventures to convert PET film into electronic products, Eldib notes.

Several Japanese makers have formed technology agreements with California-based companies in mutual gain. The US companies benefit from the momentum of Japanese global economic expansion, and Japanese companies stem the effects of trade imbalances and the devaluation of the dollar, Eldib points out.

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AROMATIC ORGANICS

Benzene Firms on Spot Market; Contracts Are Poised to Follow

The spot benzene market firmed up substantially last week, prompting two producers to raise contract pricing for December, with others expected to follow suit.

The spot market rose steadily to a 92-cent-per-gallon level late in the week. The previous week, spot benzene was quoted at 87 cents per gallon, equal to the predominant industry-wide contract level.

Shell Chemical Company Inc. increased its contract pricing by 4 cents per gallon to 92 cents per gallon early last week from a level of 88 cents per gallon. Exxon boosted its contract price 5 cents per gallon on Friday to 92 cents.

Late on Friday, Standard Oil Chemical Company raised contract prices 5 cents to 95 cents per gallon. Shell Chemical Company, another major producer, has not announced yet.

It is pointed out that both Exxon and Shell have experienced some shortness of supply this quarter, and that this has contributed to the upward pressure on the market. Exxon has experienced operational difficulties related to a hydrocracker fire several weeks ago. One source estimates that the company has been buying 150,000 barrels of benzene per month. Shell is said to be borrowing material on a regular basis in order to meet commitments.

SHELL CANADA OUTAGE

Shell Canada recently lost about twelve days of benzene production at Scotford, Alberta, due to a catalytic reformer problem. The company says that it was compelled to shut its styrene plant for a week, but that it was able to meet all its contract commitments.

Petro Canada Ltd. in Montreal was down for a considerable part of October, and is not expected to be a factor again in the merchant market until year's end.

With these production shortages and strong derivatives demand, the benzene market is described by industry sources as fairly tight. Styrene producers all are running full blast. They need the benzene, are able to push through the higher pricing, and are taking as much as they can get their hands on, says a trader.

One industry participant comments that styrene producers have not been opposing benzene increases, and styrene buyers have not been pulling up any opposition (either) during the recent months' upward spiral.

Assessing the styrene market in light of the imminent December 1 uptick in benzene contracts, one styrene producer observes that "the market appears to be tight from the buying side... benzene shipments are dragging."

"There are a lot of TVA's (temporary voluntary allowances) out there" that can be removed on short notice, he observes, and producers "are waiting in the weeds to see if there's any groundswell" on pricing.

In less than three months' time, spot benzene pricing has firmed 15 cents per gallon, activity 5 cents per pound. While there has been some strength in crude oil and gasoline prices during this period, sources say, the aromatics market has firmed beyond simply reflecting these prices.

Industry players remark that, while the US market is tighter than the world market as a whole, the European market has been fairly strong as well, and benzene exports to the US have not been heavy.

BHT — PMC Specialties Group, Inc. announced this month that it will be raising list prices on butylated hydroxytoluene by 5c per pound, effective January 1.

"CAO-1" technical-grade material increases to \$1.31 per pound from \$1.26 per pound. "CAO-3" food-grade material moves to \$1.32 per pound from \$1.26 per pound. It

is said that the company's list pricing is no higher than it was two years ago.

PMC expects the list move to be reflected in selling prices. "The market is not outstanding, but it is reasonable to believe (the change) will stick," says a company spokesman, although another adds that "we won't be non-competitive."

An attempt by PMC to raise prices in August did not succeed, and one competitor ob-

PRICES TRENDLINES

WEEK ENDING NOV. 21, 1986

CHANGES/UP
None

CHANGES/DOWN
None

AROMATICS INDEX

The Aromatic Organics Index reflects the prices of 14 representative materials in the sector and the quantity of each produced in 1985.

Nov. 21, 1986	187.84
Nov. 14, 1986	187.84
Oct. 24, 1986	187.84
Nov. 22, 1985	187.84

Chemical Prices Start on Page 28

serves that "PMC has moved up and down a few times on list pricing, and nobody else has moved at all." According to this source, there has not been any significant movement in selling prices for about a year.

Nonetheless, one producer, Borg-Warner Chemicals, says it will support the move by raising off-list pricing by 5c. per pound. Neville-Synthe Organica Inc. says it is studying the situation.

PMC says the price increase can be attributed to a decline in the pressure exerted on the market by European imports; and other producers agree that the downward trend in the value of the US dollar has had a substantial impact.

Producers acknowledge that demand and pricing for BHT have been adversely affected this year by a trend toward the use of new, high-performing phenolic antioxidants. One producer estimates that 2 to 3 percent of BHT consumption has been lost. There is said to be downward pressure in pricing for these competing materials related to patent expirations.

Prior to any increase in BHT pricing, selling levels are quoted at slightly under \$1.20 per pound. Producers quote list price levels between \$1.26 and \$1.40, with Unifroyal Chemical Company on the high end.

A Unifroyal spokesman says that, because of the company's higher price, it is holding its list steady at this time. "We've always been at least 5c. per pound higher" than other producers, he says, even though "we've lost a little market share" on account of that policy.

TOLUENE — The spot toluene market was quoted last week at 70c. per gallon, a 3c. per-gallon increase from the previous week's level of 67c. per gallon.

The upward move is attributed to rising benzene and gasoline prices. In addition, it is noted that the European toluene market has been tight.

A spot xylene price of 78 1/4c. per gallon was quoted last week, unchanged from the week before. An industry source says that this market has been steady to slightly weak in recent weeks, primarily on account of downward pressure from the paraxylene sector.

Spot paraxylene pricing was quoted at 18 1/4c. per pound, compared with 17 1/4c. per pound level quoted in early October. "The new Japanese plants are coming on, and whether or not they're on yet, they're trying to sell," says a domestic producer.

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organic intermediates

WACKER

Flow chart of the ethylene-depending intermediates

CHLOROACETALDEHYDE
 $\text{ClCH}_2-\text{C}(=\text{O})-\text{H}$

CHLOROACETALDEHYDEACETALS
 $\text{ClCH}_2-\text{CH}(\text{OR})_2 \quad (\text{R} = \text{CH}_3, \text{C}_2\text{H}_5)$

MERCAPTOACETALDEHYDE
 $\text{HSCH}_2-\text{C}(=\text{O})-\text{H}$

2-CHLORDIMETHYL-1,3-DIOXOLANE
 $\text{ClCH}_2-\text{C}(\text{CH}_3)_2-\text{O}-\text{CH}_2-\text{CH}_2-\text{O}-\text{CH}_2-\text{CH}_2-\text{C}(\text{CH}_3)_2-\text{Cl}$

METHYLAMINOACETALDEHYDE DIMETHYLACETAL
 $\text{CH}_3\text{NHCH}_2-\text{C}(\text{OCH}_3)_2$

TRIMETHOXYETHANE
 $\text{CH}_3\text{O}-\text{CH}_2-\text{CH}(\text{OCH}_3)_2$

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CHEMICAL MARKETING REPORTER

November 24, 1988

Air Emissions Policy

Continued from Page 3

interim environmental program under Clean Air Act, especially in severely polluted areas where most large plants are well controlled."

Initial reaction from Capitol Hill environmentalists, however, was moderate.

A staff counsel to the House Energy and Commerce subcommittee on health and environment said the regulations will increase compliance with Clean Air Act standards in areas that still fail to meet the "it pretty much guarantees the 40 million people live in noncompliance" such as New York, Houston, Los Angeles, Pittsburgh and Denver.

David Douger, senior attorney to Natural Resources Defense Council, said policy will result in "a giveaway to get...Sources that have unpleasant reduction resources ought to be brought over to the public. Instead they're in a shell game, and the air stays smoky."

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Because it often costs many times more to remove a pound of the same pollutant from one stack as from another one, for black, such bubbles can save several dollars per transaction over the cost of long traditional uniform requirements the same or better environmental results.

"This new policy strengthens what EPA's past efforts to use economic incentives to encourage environmental progress," he said. "Use of bubbles was already established under previous EPA policies back to 1979 and has been estimated to save the economy hundreds of millions of dollars. Similar approaches are being important contributions to our air phase out lead in gasoline, reduce the asbestos and secure efficient reductions from various sources under the Water Act."

EPA's first bubble policy was to help the agency address expanding responsibilities and decreasing annual returns. A 1982 Interim Emissions Policy enlarged that early effort, graded the bubble with disincentive-based approaches and directed many approval requirements.

The new policy tightens requirements existing-source bubbles, banning new bubble rules, which allow states to set individual bubbles without case-by-case review. Among other steps, the policy provides for more regular EPA oversight rules.

It also requires bubbles in all areas, even any hazardous or potentially hazardous emissions, meet rigorous accounting designed to prevent hidden emissions increases and publicly state all changes in total as well as permissible emissions and their ambient effects will be clearly stated.



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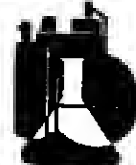
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ALIPHATIC ORGANICS

Acetic and VAM Prices Rise As a Tight Market Persists

Extreme tightness in the acetic acid and vinyl acetate monomer markets have enabled producers of the two aliphatic chemicals to push through higher prices in the fourth quarter. In many accounts, acetic acid sellers succeeded in pushing a 1-cent-per-pound increase through, while VAM makers hiked prices 2 cents per pound.

"We've been in 'sales control' for the past two months," one acetic acid producer says. He describes this as limiting purchases to a regular total which forces the company to turn away larger-than-usual orders.

The acetic acid market has been running at over 90 percent of capacity all year, sources say, but has grown extremely tight in recent weeks following turnarounds taken by Celanese at Clear Lake, Tex. and USI at Deer Park, Tex.

The two facilities, which have a combined acetic acid capacity of 1.84 billion pounds, were down for three weeks and six weeks, respectively. The USI facility returned to service last week, the company says, after work was completed on the syngas unit in Deer Park.

As a result of this supply tightness, producers were largely successful in passing through the 1-cent acetic acid increase. Both the acetic acid and vinyl acetate monomer increases "went through fairly cleanly," one producer says.

Another seller says the increase was "fairly successful," save for those customers with protective clauses written into their contracts. This seller says the market price for acetic acid now stands at 17 cents to 18 cents per pound for mid-sized customers.

OPERATIONAL PROBLEMS CITED

The market tightness for acetic acid was partly caused by "operational problems" at several plants, one producer says, and inventories fell to uncomfortable levels. He says the industry started to catch up until the two plant turnarounds again stretched the supply chain.

Demand for acetic acid this year has been described as steady if not spectacular. Including exports, US consumption is expected to reach 3.2 billion pounds this year, while capacity stands at 3.7 billion pounds. The long-term forecast calls for demand to grow at under 2 percent annually.

Despite these modest demand projections, the market is expected to remain tight through the middle of next year. The acetic acid unit owned by Sterling Chemical in Texas City (the material is marketed by BP) is expected to take a short turnaround next month, and is then scheduled for a four-to-six-week shutdown in the second quarter of 1987. Celanese will take another three weeks of downtime at Clear Lake in March to finish the maintenance work started this fall.

Two producers, Celanese and Sterling, have the ability to expand their acetic acid capacities, but neither company is planning to do so in the near future. Celanese could add 180 million pounds to its Clear Lake total and Sterling could expand by 110 million pounds at Texas City, but since growth is forecast at 1.5 percent a year or less, producers say current supplies, if running smoothly, is sufficient.

In addition to hiking prices for domestic customers, sources say the export price of acetic acid has risen 1 cent a pound as well. Exports are expected to grow from 237 million pounds in 1985 to 275 million pounds next year.

Further ahead, new capacity overseas is expected to reduce US export shipments. At the moment though, the strong domestic supply-demand balance has reduced the availability of acetic acid for overseas shipment.

The acetic acid price firming is in sharp contrast to the price trends of the acid's two main raw materials, propylene and methanol. Propylene producers had no success in pushing up prices in October, and list prices remain mixed at 9 1/4 cents per pound.

Methanol has been on a long, steep slide all year, falling from 40 cents per gallon in June to 28 cents per gallon at present.

The vinyl acetate monomer market has been somewhat more spotty than the acetic acid market, but the price is definitely firming, sources say. Some firming in the ethylene market and the tightness of raw materials.

PRICES TRENDLINE

WEEK ENDING NOV. 21, 1986

CHANGES/UP

None

CHANGES/DOWN

None

ALIPHATICS INDEX

The Aliphatic Organics Index tracks the prices of 20 representative materials in this sector and the quantity of each produced in 1985.

Nov. 21, 1986	222.8
Nov. 14, 1986	222.8
Oct. 24, 1986	222.8
Nov. 22, 1985	222.8

Chemical Prices Start on Page 11

acetic acid supply were cited as the main factors in the VAM market. A 2-cent increase raises selling prices to 20 1/2 cents to 29 cents per pound for medium-sized accounts, delivered.

An exporter of VAM, says the export price for VAM increased the full 2 cents this year. If you wanted to export VAM, you could hear remarked.

Meanwhile the main consumers of VAM, polyvinyl acetate producers, continue to struggle. An excess of supply has made the market extremely competitive, sources say, and there is little chance higher raw material costs will be passed through for the foreseeable future.

ISOPROPANOL — US production is up 1 percent through the first half of the year, according to Commerce Department. Market observers say this is due to a combination of an improved trade balance and increased domestic demand.

Improved foreign trade is the main factor in the improvement. Through September of this year, imports are down 24 percent to 0.47 million pounds. Likewise, exports are a surprising 40 percent, to 186.4 million pounds.

Both the softening of the dollar and the European production costs are credited for this net increase in trade. Costs for raw material propylene in Europe are considerably higher than they are in the US.

In addition, US demand for the base chemical is proceeding at 200 million pounds in some end-use segments, according to one producer.

One producer is posting a list price of 1.15 to 1.50 per gallon, depending on location. This price is said to have been fairly firm all summer when import pressure was at a peak, but became softer once the flow resumed. Imports are said to be drying up once again, however, so firmer pricing may be on the way.

2-ETHYLHEXANOL — Market participants say that a 2c-per-pound price increase has been largely successful, although some contract-protected customers have been affected by the announcement.

The major impetus for the tight supplies, on both sides of the border, is the shutdown of a plant, US producers have above 90 percent of total production. The producer is said to be currently allocating deals with its customers.

The world situation next few months as a 100,000

ALIPHATICS

city in Poland is said to be coming on stream this month. The material is likely to be exported to the Far East before it is the US, however.

In the US, supply snugness is expected to continue at least through the first quarter of next year.

Through the first half of the year, US production is up over 8 percent, compared to the same period last year. Part of this is due to the Montreal closure, but part is due to increased US demand.

Use as a cetane enhancer is singled out by one producer as a strong market currently. Sales to the US DOP business are also healthy; DOP imports are coming in at an annualized rate of only 9 million pounds this year, as compared to a total of 25 million pounds last year.

The current list price of 34c per pound, delivered is considered reasonable for average buyers.

MTBE — Although toluene advanced 3c per pound last week on the coattails of a

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strong benzene market, little or no movement in methyl-tert butyl ether prices was reported.

Sources attribute the lack of price change to sluggishness in the octane market, where MTBE is exclusively used. One marketer said that even his toluene sales went to dehydroalkylation for benzene production, rather than for octane use.

Pesticide Fee

Continued from Page 7

data, EPA determines whether a pesticide can perform its intended function without causing "unreasonable adverse effects" on human health or the environment while taking into account the potential benefits of the proposed use.

The \$18 million in fees the agency expects to recover annually under the proposed rule is slightly more than one quarter of all costs EPA expended to fiscal 1985 to conduct pesticide activities.

In addition to proposing a fee structure for certain registration activities, the agency is also seeking comments regarding the establishment of a more comprehensive fee system in the near future which would cover the scientific and administrative costs of maintaining all registrations for both new and old pesticides.

This system would increase collections by approximately \$22 million to a total of \$40 million, or approximately 60 percent of all costs expended on pesticide activities by EPA in fiscal 1985.

The future fee structures would cover many of the ongoing activities in EPA's pesticide program not covered by the plan proposed last week.

These include such issues as determining data gaps in older pesticides and requiring these data from registrants; conducting special reviews of chemicals which may pose a health or environmental risk; auditing laboratories and their health data to assure that health and environmental effects studies used in support of pesticide registrations are completed and valid; and there registration of older pesticides.

EPA is considering two options for the planned registration fee structure.

The first is an annual-fee approach. It would cover scientific review and transaction costs, prorating the average costs among producers of each active ingredient, with an annual fee for each year the registration remains on the market.

The agency has proposed the following fee schedule: new chemicals, \$185,100; old chemicals, \$3,500; new uses, \$25,900; amendment, \$800; new biomedical, \$58,000; experimental use permit, \$4,000; and food additive registration, \$5,500.

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DRUGS & FINE CHEMICALS

Anti-Convulsant Switching Is Linked To Renewed Seizures

The medical soundness of having epilepsy patients switch from brand name to generic anti-convulsants, or vice-versa, is being questioned by The Epilepsy Institute and some suppliers of anti-convulsant drugs. The switching from brand name to generic, or from generic to generic, is also under scrutiny.

Physicians and some market observers worry that switching anti-convulsants can trigger renewed seizure activity in previously seizure-free epilepsy patients. This concern is growing because, with the increasing popularity of generic drugs, switching is becoming more common. Often, pharmacists will switch a patient to a generic drug if allowed to, say observers.

Therefore, The Epilepsy Institute, based in New York, has launched a campaign, urging physicians and pharmacists not to change their epileptic patients' anti-convulsants once a regimen has been established. Approximately 2 to 3 million epilepsy patients take anti-convulsants.

The problem with switching anti-convulsants, says Dr. Harl Peterson, is that not all anti-convulsants are absorbed or excreted at the same rate, so protective blood levels may not be sustained. "A slight change in absorption rate can make the difference in having a seizure," claims Dr. Peterson, a member of The Epilepsy Institute's advisory board, and a professor of neurology and pediatrics at New York Hospital and Cornell Medical Center. "We are becoming increasingly aware of the potential non-equivalency."

SWITCHING POLICIES

Dr. Peterson says that New York State has a good system of prescribing drugs which, if adopted by all the states, would decrease the number of renewed seizures. In New York, physicians instruct the pharmacist to either switch or not to switch. However in other states, such as Florida and Massachusetts, pharmacists are allowed to switch at their discretion.

The specific generics being looked at are carbamazepine, phenytoin and valproic acid, the most common anti-convulsants used for treating epilepsy patients. Respectively, the brand name products using these active ingredients are Ciba-Geigy ("Tegreol"), the Parke-Davis division of Warner-Lambert ("Dilantin"), and Abbott Laboratories ("Depakene").

"The problem of therapeutic equivalence between different anti-convulsant agents has been established," acknowledges a Parke-Davis spokesman. "We don't advocate change (of medication) without closely monitoring the patient."

Ciba-Geigy has no comment, but acknowledges that since May it has been notified of 11 cases of renewed seizures caused by switching.

A spokesman from Abbott says his com-

pany has made no public statement, but is not yet prepared to do so. However, he says the company has heard of three cases of renewed seizure activity following a switch.

Spokesmen say their companies learned these cases from the physicians whose patients suffered relapses. This is common, observers, noting that word-of-mouth played the major role in making this problem known.

This is disturbing to a spokesman for the Drug Administration, who says he has never heard of any adverse reactions.

PRICES TRENDLINES

WEEK ENDING NOV. 21, 1988

CHANGES/UP

None

CHANGES/DOWN

None

DRUGS INDEX

The Drugs & Fine Chemicals Index reflects the prices of 10 representative materials in this sector and the quantity of each produced in 1988.

Nov. 21, 1988 211.0

Nov. 14, 1988 210.0

Oct. 24, 1988 210.0

Nov. 22, 1985 210.0

Chemical Prices Start on Page 18

by switching. FDA has approved all previously named anti-convulsants, and they are therapeutically equivalent. It is to see cases and patients," says a spokesman, who adds that he doesn't speculate with "no hard data."

Dr. Peterson stresses that changes in general law aren't being sought, which is why FDA has not been petitioned. He says while The Epilepsy Institute does not form studies, many neurologists have held a conference about this topic in the future, and that some hope to conduct study.

CAFFEINE — Pfizer Inc. will raise its prices for anhydrous caffeine effective December 1.

The new truckload price will be \$4.15 per pound, an increase of \$1.15. Five thousand pounds will cost \$5.80 per pound, and more than 5,000 pounds will cost \$6 per pound. Freight is prepaid on quantities of 5,000 pounds and more.

"Pricing has been depressed since 1981 because of currency fluctuations," says a Pfizer spokesman. With this increase, Pfizer will charge a unit price nationwide. Previously, the price differed west of Denver.

MALIC ACID — Major suppliers of malic acid agree that growth has been robust

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DRUGS & FINE CHEMS

In 1988. Estimates of industry growth range from 10 to 20 percent.

"Demand is up appreciably from the previous 12 months," claims a spokesman for Denka Chemical Corporation, the domestic producer. Denka took over Alberts Gas Chemicals' domestic production this year.

Denka's spokesman notes that malic acid is increasingly being used with aspartame. Others concur that this use has been rising, and most believe it will continue to do so.

One source also mentions an increased usage in the dry powdered beverage market, and in the fruit-flavored candy market. "Gummi Bears" are an example of this candy.

Malic acid is competitive with citric acid, and even has the same list price (\$1.00 per pound). One source says that many malic acid users were switching to citric acid because of supply shortages. Now, he says, malic acid's supply is improved, in both quantity and quality. Sources say suppliers are more committed to producing good product.

While suppliers expect good growth, most won't specify. However, one spokesman thinks the industry could see 10 percent growth over the next three to five years.

SODIUM ERYTHORBATE — Pfizer Inc. is increasing its price for sodium erythorbate, effective December 1.

Truckload quantities will cost \$2.75 per pound, up from \$2.60 per pound. West of Denver, the price will rise to \$2.77 per pound, up from \$2.62 per pound.

This is Pfizer's first sodium erythorbate increase since November 1982, says a spokesman.

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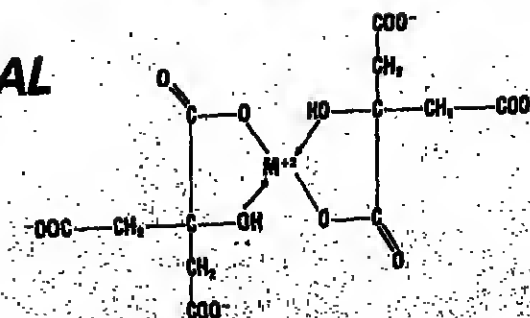
BOTANICAL DRUG IMPORTS: SEPTEMBER

CENSUS BUREAU REPORTS ON SELECTED BOTANICAL DRUGS.

	QUANTITY	VALUE	QUANTITY	VALUE
Agar	174,255	993,298	241,432	1,448,000
Balsam, nat. sap	2,568	15,814	14,082	87,000
nat. styrac	6,803	19,226	3,967	11,000
nat. totu	119,298	6,508	6,508	1,000
Crude animal glands, organs and parts	42,304	80,508	34,791	58,000
Ginseng root	2,119	331,406	18,219	2,800,000
Ginseng, adv.	48,017	286,544	788,688	1,200,000
Glycosides	14,891	1,025,246	1,871,770	2,800,000
Gum, Arabic	830,783	1,200,598	365,599	500,000
Gum, Guar, nat.	2,350,898	407,393	70,693	100,000
Gum, Locust Bean	10,811	47,784	4,416	10,000
Gum, Karaya, nat.	72,752	18,000	39,193	100,000
Gum, Tragacanth, nat.	9,728	1,864,430	841,009	1,400,000
Licorice root	844,635	20,340	4,007	10,000
Natural crude drugs, bils, other animal excretions	3,338	812,138	266,000	400,000
Natural crude drugs, animal origin, nat.	210,636	1,819,468	674,419	1,000,000
Natural adv drugs, misc.	800,076	454,870	1,418	10,000
Poppy straw extract	408,812			
Psyllium seed husks				

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Drug Export

Continued from Page 3

sion applies to vaccines for childhood diseases such as polio, measles, diphtheria, tetanus, rubella, smallpox, and mumps.

It provides for compensation for the medical, rehabilitation and education costs for children who are injured by the vaccines, leaving the court process open only to those hurt or disabled through negligence.

Supporters argued that most children never receive court awards because negligence on the part of a physician or manufacturer is difficult to prove and, in the case of

those who are compensated, much of the money is eaten up by legal fees. They were also concerned that high insurance costs would lead pharmaceutical firms to end production of the vaccines or dramatically raise prices. Chief sponsors of the health package were Sens. Orrin Hatch (R-Utah), Paula Hawkins (R-Fla.), and Edward Kennedy (D-Mass.) and Reps. Henry Waxman (D-Calif.) and Mark Madigan (R-Ill.). Sen. Kennedy called the bill "vital legislation" and said the President's decision to sign it "is the best omen so far for a productive 100th Congress," which will be led by Democrats when it convenes in January.



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DuPont Chief Says

Continued from Page 3

tion, research and development and "a management commitment to creating wealth as opposed to rearranging it" as other top priorities of the chemical industry is to remain competitive in the years ahead.

Actually, the industry has done pretty well relative to other industries, Mr. Heckert says. US chemical exports are expected to total about \$22 billion this year, while imports will finish out the year at some \$15 billion, giving the industry a \$7 billion positive trade balance.

However, he also notes that the US annual total merchandise deficit remains about \$140 billion and cautions that the chemical industry's competitive strength should not be taken for granted.

Mr. Heckert told the CMA members that in the new customer orientation goes well beyond the basics of cost and quality. "Partnership is something of a cliché, but it is a key concept in today's marketplace. Until we have gotten into the habit of looking at our businesses through the eyes of our customers, we haven't truly entered into partnership with them," he says.

He also points out that Du Pont has restructured some of its operating departments to "reflect the markets we serve" and has fostered the "business ownership" concept that encourages employees to

"look for ways to serve the customer better, at lower cost and with fewer people."

The latter includes giving employees a bigger role in making the business perform, he says, noting that unless this is done "you've gotten smaller, but you haven't gotten better."

Serving high technology markets successfully means a strong credible R&D program, Mr. Heckert says, adding that Du Pont spends on average nearly 4 percent of sales on R&D compared to an all-industry average of 3 percent. More important, he says, only 3 percent of the chemical industry's R&D is government-funded as compared to 34 percent for all industry. "In our industry, we call the shots," he says.

Finally, Mr. Heckert sees a need for corporate managers to commit themselves to creating wealth as a key to competitive strength. "One unfortunate byproduct of corporate bureaucracy in recent years is a preoccupation with rearranging wealth instead of creating it," he says.

"Corporate raiders, arbitrageurs, megamergers, greenmail and the like have become part and parcel of corporate life in the 80's. Profitable or devastating as these schemes may be depending on one's role, most of this stuff is smoke and mirrors. No wealth is created when an unfriendly takeover sends a stock price skyrocketing," he says.

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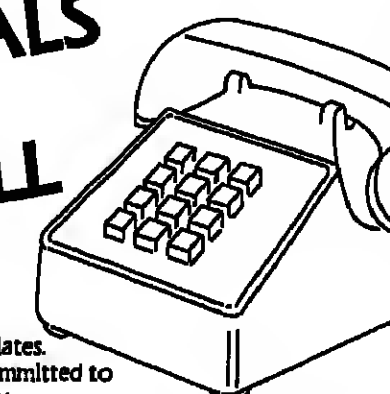
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November 24, 1988 CHEMICAL MARKETING REPORTER 81

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Chemical Finance

Synbiotics Raises Revenue, Cuts Loss Sharply

Synbiotics Corporation, San Diego, Calif., a leading developer and manufacturer of monoclonal antibodies, boosted its fiscal second-quarter revenues more than six-fold to \$1,135,464 from \$147,428 a year earlier, while its net loss in the quarter (ended Sept. 30) was sharply reduced to \$50,802 from \$148,258.

During the quarter, Synbiotics completed a secondary public offering of common stock yielding net proceeds of \$3.8 million, which will be used to accelerate the introduction of diagnostic products for humans, noted Edward T. Maggio, president and chief executive officer.

Laser Industries' Earnings Increase 53 Percent

Laser Industries Ltd., of Tel Aviv, Israel, a leading developer of lasers for medical and other purposes, had record net sales of \$7,730,000 in the second fiscal quarter ending September 30, up 28 percent from \$6,132,000 a year ago. Net income rose 53 percent to \$1,133,000 from \$735,000, but the increase in earnings per share was smaller — from 10 cents to 25 cents per share — because the number of shares outstanding increased substantially between the two periods.

In another development, Laser Industries began shipments of the "Sharpian TM Laser Rectoscope," a reportedly unique carbon dioxide laser endoscopic system for removal of rectal growths including cancerous growths and obstructions, polyps and hemorrhoids.

Cabot Corporation Adopts 'Polson Pill' Defense

Cabot Corporation, Boston, Mass.-based producer of energy materials, carbon black and specialty chemicals, has adopted a standard version of the "polson pill" defense against a hostile acquisition, but the company said it is not aware of any current efforts to acquire Cabot. The company will issue rights to shareholders, exercisable under certain conditions indicative of a hostile merger attempt, which will enable the holders to buy shares of Cabot stock worth twice the exercise price of the rights.

ChemClear Has Record Sales and Net Loss

ChemClear Inc., Wayne, Pa.-based processor and treater of industrial waste, had record high sales in the third quarter of \$5,755,581, up from \$3,854,307 a year ago, because of a special charge related to previously accumulated waste, the company said. Net loss of \$476,148, as compared with earnings of \$801,131.

Marion Raises Dividend 40 Percent

Directors of Marion Laboratories, Kansas City, Mo., have raised the quarterly dividend on the common stock by 40 percent from 5 cents to 7 cents per share, payable January 1 to holders of record on December 18. At the firm's annual meeting in Kansas City, shareholders ratified the retention of Peat, Marwick, Mitchell & Co. as independent public accountants.

In addition, shareholders voted to increase the number of authorized common shares from 100 million to 170 million. Total shares outstanding on June 30 were 74.5 million.

Norton to Buy Carborundum Abrasives

Norton Company, Worcester, Mass., has signed a letter of intent to acquire Carborundum Abrasives Company, a unit of Peck-Lynn Group, Ltd., a closely held company based in Chicago. Norton manufactures abrasives, ceramics and petroleum drilling products. Carborundum, based in Niagara Falls, N.Y., manufactures coated abrasives.

Schering-Plough Proposing Stock Split, Dividend Hike

Schering-Plough Corporation, of Madison and Kenilworth, N.J., said that Robert Luciano, chairman and chief executive officer, intends to propose to the board of directors that shareholders be asked to approve an increase in the company's authorized common shares to 300 million at the April 1987 annual meeting to permit a two-for-one split of the company's stock.

Mr. Luciano also expects to recommend that, based on anticipated 1987 earnings, the corporation's annual dividend rate be increased to \$2 per share on the pre-split shares, an increase of 11.1 percent.

Goodrich Offering 2 Million Shares to Public

B.F. Goodrich & Co. is offering to the public 2 million shares of its \$3.50 cumulative convertible preferred stock, Series D, at a price of \$50 per share, through Goldman, Sachs & Co. The preferred is convertible into Goodrich common at \$55 per share, subject to adjustment under certain circumstances.

Newmont Boosting Its Interest in Peabody Holding

Newmont Mining Corporation, New York, has agreed to increase to 61.47 percent its interest in Peabody Holding Company through the purchase of the 50.735 percent share held by Williams Companies, of Tulsa, Okla. Gordon R. Parker, chairman, president and chief executive officer disclosed. The purchase price is \$320 million. This will just about double Newmont's existing holdings.

Tenneco Redeeming \$65 Million Debentures

Tenneco Incorporated, Houston, Tex., has elected to redeem on January 5, 1987, \$65,242,000 principal amount of its 15 percent debentures due 2008 in accordance with the terms of such debentures. In addition, a subsidiary, Houston Oil & Minerals Corporation, will prepay \$58 million of indebtedness owed to institutional lenders.

Novo May Buy an Interest in Ferrosan

The International Investment Bank of Goldman Sachs has been in contact with Novo Industri A/S and other companies in and outside of Denmark with a view to the divestment of shares of the Ferrosan Group which could contribute to the development of Ferrosan.

"As Ferrosan has got far in areas of research within which Novo has pharmaceutical R&D is also working, we are currently investigating — through talks with Ferrosan — Novo's interest in pursuing this possibility," said a spokesman for Novo. The New York office. Novo is the world's largest producer of industrial enzymes and also a manufacturer of insulin.

HEAVY & AG CHEMICALS

Frasch Sulfur Producers Cut Tampa Prices by \$5 Per Ton

Frasch sulfur prices are decreasing by \$5 per long ton under pressure from a beleaguered phosphate fertilizer industry. Observers say that Gulf Coast area recovered sulfur prices should respond with a similar decline.

Frederick-McMullan Resources Partners and Texasgulf Chemicals Company have both announced decreases in the price of sulfur from \$182.50 to \$177.50 per long ton, f.o.b. Tampa, Fla. terminal, with equivalent decreases in delivered sulfur prices to domestic customers in other regions. New prices take effect immediately, as contracts permit.

In addition, both producers note that competitive allowances for domestic contract customers will remain in effect at this time. These allowances are based on the level of contract compliance and usually amount to as much as \$10 per ton at normal delivery levels.

Industry sources say the decrease was actually initiated by the third US Frasch sulfur producer, Penzoid Sulphur Company. Penzoid, however, will not comment on the matter.

Penzoid is said to have been particularly pressed into making the change by CP Industries, its largest sulfur customer. Other phosphate producers note, however, that the phosphate industry as a whole had been pressing Frasch sulfur producers to lower prices, even to the point of threatening to cancel contracts and look for material on the world market.

RECOVERED SULFUR LOWER

Market observers say that, historically recovered sulfur prices, although lower than Frasch prices, respond to changes on an essentially one-to-one basis through a de-escalation clause built into contracts. Sources say recovered prices are currently in the \$115-to-\$118 per long-ton range f.o.b. Gulf area refinery, and around \$120 or \$122 per ton, delivered in the Houston area. One buyer says some recovered sulfur for makers are looking at December as an effective date.

Sulfur prices on the world market have been steadily slipping over the course of the year, again due to weakness in the world fertilizer market. For instance, prices for Canadian sulfur, f.o.b. Vancouver and inland for export, have dropped as much as \$10 per ton this year, and are currently close to \$10 per metric ton.

Traditionally, most sulfur analysts still feel the long-term world sulfur price outlook is generally for significant increases, beginning possibly next year. This is because, despite lower demand, sulfur stockpiles in Canada continue to dwindle, and their adjustment later this decade will put a crimp on supply.

Frasch sulfur's importance has diminished somewhat this year, as it is backed out of the market by more prevalent material recovered from petroleum refining. Through September, according to Bureau of Mines, petroleum recovered production is up almost 50 percent, to 2.8 million metric tons, while

Frasch production is down 14 percent, to 3.1 million metric tons. Natural gas recovered production is also down slightly, to 1.8 million metric tons.

Increased recovered production is said to be attributed to increased refining of higher

PRICES TRENDLINES

WEEK ENDING NOV. 21, 1986

CHANGES/UP

None

CHANGES/DOWN

None

HEAVY & AG INDEX

The Heavy & Ag Chemicals Index reflects the prices of 18 representative materials in this sector and the quantity of each produced in 1985.

Nov. 21, 1986 113.89
Nov. 14, 1986 113.89
Oct. 24, 1986 113.89
Nov. 22, 1985 113.89

Chemical Prices Start on Page 28

sulfur crudes by US oil companies. Middle Eastern and Venezuelan crudes are angled out as main contributors.

BASES & SALTS

ALUMINUM SULFATE — Effective immediately or as contracts permit, Delta Chemical Corporation is increasing its official prices for liquid aluminum sulfate by \$8 per ton, dry basis.

Prices are f.o.b. Baltimore. Deltas will continue to offer freight equalization with competitive producing plants, as applicable.

Delta's increase follows similar announcements by Tennessee Chemical Company, Stauffer Chemical, General Chemical, and General Alum & Chemical.

LITHIUM CHEMICALS — Foote Mineral Co. is raising its prices for various lithium chemicals by 5 percent, effective December 1. The increases are for truckload quantities.

Lithium bromide brine will rise by 20c. to \$4.12 per pound; lithium chloride brine will increase by 14c. to \$2.95 per pound; lithium chloride anhydrous price will move up 17c. to \$8.48 per pound; and lithium fluoride's price will jump by 25c. to \$5.21 per pound.

According to a spokesman for Foote, prices are rising because of increased labor, raw material and transportation costs.

FERTILIZER MATERIALS

POTASH — Cominco American Inc. announced a new price schedule for potash, effective November 1.

For ton quantities (minimum 80 percent K₂O), standard costs \$52; special standard, \$55.50; coarse, \$57; and granular, \$58.50. Prices are f.o.b. Vade, Saskatchewan, to US dollars.

The terms of sale follow: for shipments from November 1 through November 30, there is a storage allowance, or rebate, of \$8, with a \$3 cash discount, 30 days net March 31; from December 1 through January 18, the storage allowance is \$8, with a \$2 cash discount, 30 days net March 31; from January 19 through February 28, the storage allowance is \$4, with a \$1 cash discount, 30 days net March 31; from March 1 through March 31, the storage allowance is \$2, net 30 days; and from April 1 forward, there is no storage allowance, net 30 days.

"These are tough times for agriculture," says a Cominco spokesman. He claims a restructuring of the price schedule is necessary to regain lost profits.

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Imp. Produced	23,851	23,258	23,124
Imp. Shipped	13,890	13,543	12,797

CAUSTIC SODA			
Dom. Produced**	29,663	29,388	29,808
Imp. Produced	843	858	764
Capacity	35,000	35,000	35,000
Operating Rate	92.2%	90.2%	90.2%

*Source: Chlorine Institute.
**Source: American Chlor-Alkali Association.
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Goodyear Takeover

Continued from Page 8

to compete, not seek artificial protection." Goodyear, headquartered in Akron, Ohio, operates 100 plants around the world and has about a 23 percent share of the global tire market. It has assets of \$4.6 billion.

Several congressmen, including Rep. John S. Garamendi, D-Calif., described corporate raiders as profit-seekers who engage in "corporate strip-mining" by selling off assets, eliminating jobs and leaving behind financially weakened companies.

The takeover threat, they said, will force American companies to focus on short-term profits instead of long-term competitiveness.

Textile Exports Limited by Japan

Japan has agreed to limit textile and apparel exports to the US to about eight-tenths of one percent annually through 1989 under an accord reached with the White House trade office.

Japan is the fifth largest supplier of textiles and apparel to the US in both volume and value, accounting for 6.5 percent of total US textile imports.

According to Deputy US Trade Representative Michael B. Smith, the new agreement will reduce Japan's apparel and textile growth rate from the 17 percent which occurred in the first nine months of 1988 to less

than 1 percent, retroactive to January 1. "In addition," says Mr. Smith, "the textile agreement will reduce the number of illegal transshipments by establishing a visa system which will require Japanese textile and US Customs Service to verify a country of origin of all textile exports to Japan."

Carbide Ag Chem Sale

A previous report on the sale of Carbide Corporation's agricultural products company (CMR, 11/17/88, pg. 3) incorrectly reported the price involved in the sale. Rhone-Poulenc of France has reached agreement to purchase the Carbide unit for \$11 million in cash. Annual sales of the agricultural products company amount to \$40 million.

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COATINGS & PLASTICS

Epoxy Makers Lining Up Behind October's Advances

Price increases in epoxy resins have apparently held firm, according to two major producers. The price hikes were scheduled to take effect in October. Since that time, steady trading of the resins has been taking place at the new levels, according to sources.

Dow, Ciba-Geigy and Reichold all announced price increases on their epoxy resins. Dow and Ciba-Geigy announced increases effective October 1, while Reichold scheduled increases for October 16.

All of these companies raised pricing on their liquid epoxy resins by 4 cents per pound, and by 3 cents per pound for solid grade. On solution-grade, the range of price hikes was from 2 cents to 3 cents.

Producers had been reporting very low margins this year on epoxy resins. The market saw considerable discounting during the course of the year, attributed largely to import activity. While imports represent a relatively small percentage of the total US market, they had a significant effect on pricing of domestic material.

PREVIOUS DISCOUNTING

The earlier discounting, in addition to being the result of supply and demand pressures, also involved customer expectations regarding falling crude oil prices, according to an industry spokesman.

Although there is relatively little direct impact from crude oil on pricing of epoxy resins, consumer demands in this area are a factor in softening the price, the source says. "Whether this was a real expectation or a negotiating strategy," he says, "the customers were fairly successful in getting the prices lowered."

At the same time the discounting was occurring, raw material prices were also falling. However, producers frequently complained that prices on the finished product were falling more rapidly than raw materials costs.

Further cutting profitability this year have been increases in labor costs and outlays associated with compliance with environmental regulations.

Current raw material pricing is described as firm. Epichlorohydrin pricing rose last month, as producers announced increases of 3 cents per pound as of October 1.

Bisphenol-A pricing is described as flat, but BPA is also said to be in relatively short supply. In the opinion of one producer, this indicates the presence of upward pressure on pricing.

Domestic demand for epoxy resins has been up this year in the housing related markets. Adhesive and bonding segments rose 8.3 percent through June of this year, compared to 1985 levels, and demand in flooring and paving moved up by 11.7 percent over the same period of time.

Also seeing a pick-up in demand were the electrical end-use markets. This area was in very bad shape last year, while not completely turned around, this segment is said to be healthier this year than last.

US producers are expecting their export markets to pick up in the near future. They

PRICES TRENDLINES

WEEK ENDING NOV. 21, 1988

CHANGES/UP

None

CHANGES/DOWN

None

COATINGS INDEX

The Coatings & Plastics Index reflects the prices of 13 representative materials in this sector and the quantity of each produced in 1985.

Nov. 21, 1988 306.4
Nov. 14, 1988 306.4
Nov. 24, 1988 306.4
Nov. 22, 1985 306.4

Chemical Prices Start on Page 28

are currently exporting a wide range of products, most of them being specialty epoxy grades. Commodities are also said to figure into the export market.

PLASTICS MATERIALS

STYRENE ACRYLATE POLYMERS — The Resin & Specialty Chemical Division of National Starch & Chemical Corporation has announced a price increase for "Nacrylic" styrene acrylate polymer emulsions. The price will be raised by 5 percent, and is to be effective December 15.

A sample change is for "Nacrylic 3730" which will be raised from \$53.50 to \$56.00 per hundredweight, in tank truck quantities.

MISCELLANEOUS

TALL OIL ROSIN — Union Camp Corporation has announced that it is increasing its pricing on tall oil rosin by 1c. per pound. Sample price changes include Unitol NCY, raised from 24c. to 25c. per pound, and Unitol ROS, raised from 26c. to 27c. per pound. These prices are for rosin in bulk quantities, f.o.b. Savannah, GA.

A company spokesman says that the price increases, effective November 21, were made to bring the company's prices into line with the world market value for tall oil rosin.

This latest move follows an earlier 1c. per pound increase in Union Camp's tall oil rosin prices, which were made effective September 12.

COATING & PIGMENT EXPORTS: SEPTEMBER

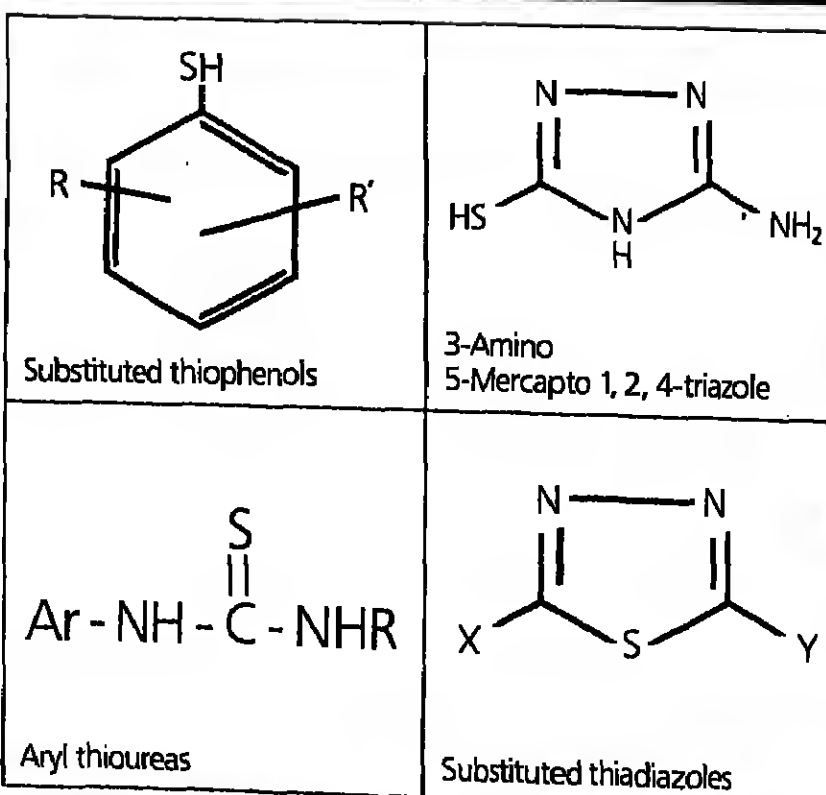
BUREAU OF CENSUS FIGURES ON THE KEY PAINT MATERIALS.

		SEPTEMBER '88		AUGUST '88	
		QUANTITY	\$ VALUE	QUANTITY	\$ VALUE
Antimony compounds (NBP)	lbs.	87,418	155,553	82,260	105,480
Carbon black, including thermal	lbs.	9,155,596	8,542,056	8,797,344	4,505,226
Chromium pigments (1)	lbs.	222,225	563,036	379,444	566,769
Colors, tints and toners (Cytol):					
Concentrated dispersants	lbs.	268,510	984,892	223,544	704,192
Gold	lbs.	108,030	254,587	141,786	394,872
Iron	lbs.	55,719	222,064	54,901	235,832
Blue	lbs.	4,194	66,416	28,592	379,293
NBP	lbs.	496,001	1,950,850	371,355	1,552,369
Prepared paint and varnish driers	lbs.	777,538	2,787,101	826,889	3,255,340
Prepared solvents & thinners	lbs.	781,455	821,114	856,029	874,870
Resins, nat., syn.	lbs.	2,241,593	1,653,288	4,026,746	2,665,973
Lead oxides	lbs.	4,807,857	2,788,731	3,374,996	2,807,724
Phthalate esters; Dioctyl phthalate	lbs.	12,201	3,608	87,353	11,566
Other phthalates	lbs.	787,553	247,351	822,962	170,828
Thiuron dioxide	lbs.	51,722,201	9,261,539	34,408,334	9,642,997
Zinc oxides	lbs.	20,435,836	14,763,798	18,481,400	13,260,014
Zinc oxide	lbs.	75,553	48,552	85,553	49,028
Zirconium oxide	lbs.	95,928	235,359	871,214	425,324

(1) Includes mixtures

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WEEK ENDING NOVEMBER 21, 1986

This chemical prices section contains spot quotations and/or list prices of suppliers of chemicals and related materials on a New York or other indicated basis. The listings are based on price information obtained from suppliers. Note that posted prices do not necessarily represent levels at which transactions actually may have occurred. They do not represent bid and asked prices, nor a range of prices over the week. Price ranges may represent quotations of different suppliers as well as differences in quantity, quality and location. All matters under this heading are fully covered by copyright.

An index of weekly chemical market reports is on the back cover.

Alumina, activated, gran., 100-b. bags, 40-60 mesh, c.i., works lot	821.00
calcined, bulk, same basic	354.00
100-b. bags, same basic	180.00
hydrated, white, bulk, same basic	180.00
100-b. bags, same basic	224.00
Aluminum acetate, basic, dm., l.o.l., works	3.25
Aluminum chloride, anhyd., solid, 500-600 lb. bags, c.i., l.b., works	1.00
ret. dms. c.i., works	.63
bulk, same basic	.48
semi-bulk bins, same basic	.52
Aluminum chloride, comd., solid, 325 lbs., works	15.00
ret. dms. c.i., works	12.00
non-ret. dms., same basic	20.00
Aluminum formate, dibasic, 10% Al_2O_3 l.b., works	.65
Aluminum hydroxide, amorphous (Alumex)	1.00
Aluminum hydroxide, dried, grad. NF, 75-b. bags, c.i., l.b., works l.b.	2.75 3.50
Aluminum metal, 99.9% or more, 50-lb. pigs, 30,000-lb. lots, int. sig.	.78
Aluminum oxide amorphous (see Alumina, calcined)	
Aluminum paste, leafing grade, dried, tinting, 2,400 lb. lots, c.i., works	1.40
lining, extra fine, same basic	1.89 2.14
Aluminum phenolsulfonate, purif., 100-lb. dms., c.i., works	6.45
Aluminum powder, leafing grade, dried, tinting, 2,400 lb. lots, c.i., works	3.17
extra fine, lining, same basic	4.04
Aluminum stearate, bgs, c.i., works	1.25 1.39
Aluminum sulfate, comd., grad. 100 lb. bags, c.i., works l.b., works	1.00
basic 17% Al_2O_3 East and Gulf Coast	205.00
West Coast	220.30
ft. tanks, H.E. same basic	145.00
iron-free, dry, bgs, c.i., works	300.00
ft. tanks, same basic	225.00
Aluminum sulfate, USP, gran., dms. in bags, c.i., works	285.00
ft. tanks, USP dms., 20,000 lbs., l.o.b. works	.37
tech., l.b., same basic	2.12
P-Antirozonac acid, 1,000 kilos or more dms., l.o.b. works	1.68
2-Amino-2-naphthol, 1,000 lbs. or more dms., l.o.b. works	8.60 10.10
P-Antirozonac acid, 1,000 lbs. or more, int. sig.	
14,000 lbs. or more, int. sig. l.b.	5.79
Aminoethyl ethanolate, tank, int. coiled	1.33 1/4
N-Aminoethyl ethanolate, tank, l.o.b., int. coiled	1.06
2-Amino-2-ethyl-1,3-propanediol dms., int. l.o.b. works	1.82

[illegible]

Calcium carbide, std., generator sizes, bulk, oil, l.o.b., works.....	ton	402.00	-
Calcium carbonate, pulverized, 92% fresh, bgs., bulk, l.o.b. works.....	ton	48.00	-
alumina.....	ton	86.00	100.00
basic.....	ton	100.27	-
72% solids, same basis.....	ton	100.93	-
quicksilver, gran., ind., bulk, works.....	ton	100.93	-
Calcium carbonate, coated, bgs., oil, works.....	ton	88.30	110.00
Calcium carbonate, precip., bgs., oil, works.....	ton	386.00	446.00
Calcium carbonate precip. medium, bgs., oil, works.....	ton	110.00	150.00
precip. medium, bgs., oil, works.....	ton	286.00	-
treated, bgs., oil, works.....	ton	217.00	225.00
ultrafine, USP, bgs., oil, works.....	ton	163.00	-
Calcium chloride, conc. reg. grade, 77-80% flakes, bulk, oil, works.....	ton	106.00	-
100-lb. bgs., oil, same basis.....	ton	217.00	-
anhyd., 94-97%, flake or pellet, bulk, oil, same basis.....	ton	276.00	-
80-94% bgs., oil, same basis.....	ton	265.00	-
brining grade, 80-lb. bags.....	ton	88.75	-
Calcium chloride, 100 percent basic, 10-lb. bags.....	ton	118.00	-
46% same basis.....	ton	226.00	-
Calcium chloride, USP, gran., 226-lb. dms., l.o.b. works.....	ton	90	-
Calcium citrate, opt., 200-lb. dms., 10,000 lbs. or more, l.o.b. works.....	ton	3.82	-
Calcium cyanamide, indust., anhyd., 100-lb. dms., l.o.b. works.....	ton	400.00	460.00
Calcium gluconate, USP, opt., 100-lb. dms., l.o.b. works.....	ton	1.50	-
Calcium hydride, lump, dms., 25-1,000-lb. lots, works.....	ton	10.80	13.20
Calcium hypochlorite, 100-lb. dms., truckloads opt., E. of Rockledge, l.o.b. works.....	ton	82.40	-
Calcium hypophosphite, 100-lb. dms., 500 kilos or more.....	ton	13.75	14.00
Calcium iodide, FCC dms., l.o.b. works.....	ton	5.60	-
Calcium iodide, 50-lb. dms., l.o.b. works.....	ton	23.85	25.00
Calcium lactate, NF, powd., penicillin grade, 24,000 lbs. or more, l.o.b. works.....	ton	2.00	-
apical gran., lithyrate, same basis, lb. spec. gran., dried grade, same basis, lb. spec. gran.....	ton	2.10	-
Calcium naphthylate, 100-lb. dms., oil, 4% Ca, oil, E. of Rockledge, oil, plant, E. of Ca., oil.....	ton	85	-
d-Calcium pantothenate, USP, 100-500-lb. lots.....	ton	12.80	-
dl-Calcium pantothenate, food grade, l.o.b. oil, altid., 250 kilos or more.....	ton	8.00	8.00
d-Calcium pantothenate, calcium chiro-roton complex, feed grade, 180 grams per lb. l.o.b. oil, altid., 500 lbs. or more.....	ton	2.75	-
Calcium phosphate, dibasic, feed grade, 18-24% P, bulk, oil, l.o.b. works.....	ton	228.00	-
Calcium phosphate, dibasic, dry grade, USP bgs., oil, l.o.b. works.....	ton	82.50	-
equival., USP, same basis.....	ton	71.75	-
denticide grade, same basis.....	ton	49.90	-
Calcium phosphates, monobasic, monohydrate, feed grade, bgs., oil, l.o.b. works.....	ton	50.50	-
anhyd., food grade, same basis.....	ton	54.95	-
tribasic, NF, precip., oil, l.o.b. works.....	ton	82.50	-
equival.....	ton	82.50	-
Calcium propionate, dms., 2,000 lbs. or more l.o.b. oil, altid., oil, works.....	ton	50	-
Calcium silicate, hydrated, bgs., oil, works.....	ton	57	-
Calcium stearate, paint grade (see Wolfersberg), l.o.b. works.....	ton	8.50	-
Calcium stearate, paint grade (see Wolfersberg), l.o.b. works.....	ton	8.50	-

WEEK ENDING NOV 21, 1986	
Carbon black, low structure, bulk, c.i. works.....	240
bgs, c.i. works.....	270
Intermediate-superabrasion (SAF).....	25
bgs, c.i. works.....	28
superabrasion (SAF), bulk, c.i., works.....	31
bgs, c.i. works.....	4080
semi-reinforcing (SRF), bulk, c.i., works.....	210
bgs, c.i., works.....	240
Carbon black, thermal, medium, bgs, c.i. works.....	30
bulk, c.i. works.....	32
Carbon black oil, barge, f.o.b. Gulf refineries.....	10.50
f.o.b. W. coast refineries.....	10.50
Carbon disulfide, f.o.b. f.w. works ton	420.00
Carbon disulfide, CP, consumers, drms, c.i., int. add.....	38
tech. drms, c.i., int. add.....	31
tank transport (int. 1,000 gals.) int. add.....	24
Carboxymethyl cellulose (see CMC).....	
Cardamom oil, NF, lots.....	60.00
Cardamoms, discount, Guatemala.....	2.50
green, Guatemala, bgs.....	5.75
Carmine, No. 40, NF, bulk, 100-lb. lots or more, divd.....	135.00
Carnauba wax, Paraghuys, No. 1, yellow, bgs, ton lots.....	1.95
Cears, No. 1, yellow, bgs, ton lots.....	1.75
North Country, No. 2, refined, bgs, ton lots.....	1.55
Carnauba wax, North Country, No. 3, centrifuged, bgs, ton lots.....	1.10
North Country, No. 3, refined, bgs, ton lots.....	1.30
Powdered carnauba wax, 100 mesh, 200 per lb. higher.....	
c-Barotene, insecticide, semi-solid suspension, 400,000 A units per gram, 33 lbs.....	32.75
c-Barotene, 1% in vegetable oil, 800,000 A units per gram, 33 lbs, or more.....	40.75
c-Barotene, dry, beads, 10%, 167,500 A units per gram, 33 lbs.....	28.85
d-Carvone, 25-lb. dme, sym.....	48.00
l-Carvone.....	7.00
Cascara sagrada bark, bulk.....	1.00
Caselmin, incl. acid-proch, grad. 50-mesh, Australian, edible, same base, c.i., int. add.....	1.45
Australian, indust., same base, c.i., int. add.....	1.365
Caselmin, acid, 303 mesh, dme, int. add, 100% basis.....	3.70
Caselmin, Korea, "A" bgs.....	1.08
"b" bgs.....	.95
Caselmin, C. Chinese, dms.....	18.50
Caselmin, c. raw, No. 1, Brazil, incl. USP 5-dms.....	74
lyophil, dmed, 5-dms.....	78
lyophil, 5-dms.....	74
dehydrated, bodied, tanks.....	96
dehydrated, un bodied, tanks.....	96
Castor oil, acids dehydrated, dme, 10% nicotinic acid.....	1.10
Castor oil, comest., bgs, container, lb.....	.79%
Castor oil, comest., lb., Miami, Fla.....	164.00
Castoreum, nat. crn.....	18.00
sym, dms.....	11.00
Catechol, CP, 45-lb. drums.....	7.93
tech. bgs, U.I., same base.....	3.71
Catechol potash (see Potash, caustic).....	

THE TERMINOLOGY OF THE CHEMICAL MARKETPLACE

[illegible]

NOTE: A unit-ton is 1 percent of 2,000 pounds of the basic constituent or other standard of the material. The percentage figure of the basic constituent multiplied by the unit-ton price shown in Chemical Marketing Reporter gives the price of 2,000 pounds of the material.

[illegible]

medium shade, blue, same basic lb.	10.26	14.8
medium light shade, blue, same basic lb.	10.26	14.8
Cadmium, CP yellow, all shades, blue, 100-lb. lots, tr. and, a.l. of Rockies.....lb.	8.10	7.0
Cadmium fluorescent, all shades, blue, 1-lb. works, tr. aquid.....lb.	2.27	-
medium-light shade, blue, same basic.....lb.	3.22	-
Cadmium-mercury lithopone, maroon shade, blue, same basic.....lb.	4.80	-
Cadmium metal ingots or sticks, ton lots, or, divd.....lb.	1.20	1
Cadmium stearate, pastel shades, blue, 50-lb. lots, tr. and, a.l. of Rockies.....lb.	2.10	-
Cadmium-selenite lithopone, orange, light shade, blue, 400-lb. lots, tr. and, a.l. of Rockies.....lb.	3.97	4.0
deep shade, blue, same basic.....lb.	4.47	4.4
Cadmium-selenite lithopone, red, dark shade, blue, same basic.....lb.	8.77	8.7
light shade, blue, same basic.....lb.	5.72	5.3
medium light shade, blue, same basic.....lb.	6.27	6.2
medium shade, blue, same basic lb.	8.37	8.4
maroon shade, blue, same basic lb.	7.47	-
Cadmium-selenite lithopone, yellow, all shades, blue, same basic.....lb.	2.97	3.0
Cadmium arylate, 50-lb. lots, any quantity, f.o.b. ship, pt. ....lb.	4.05	-
Caffeine, dom, USP, sp. cryst., aryl, hyd., powd., 100-lb. lots, a.l. tr. and, a.l. of Rockies.....lb.	6.80	-
imp. crys. arylid., powd., dms., 10,000 lbs. or more.....lb.	6.80	16.7
Calamine, USP, dms.....lb.	26.50	26.5
Calceolite (see Eriogonite).....lb.	-	-
Calcium acetate, pure, powd., dms.....lb.	-	-

5,000 lbs. or more	1.80
USDP, pound, 185-lb. dms., 5,000 lb. lots or more	2.38
syn. red, 1-oz. tablets, dms., 1,000- lb. lots or more	3.65
Camphor oil, yellow, 25-lb. dms.	1.05
white, dms.	1.86
spec. grav., 1.070, dms.	2.55
Cerargol oil, industrial, dms.	1.80
cerargol, white, crds. bgs.	17.50
red, pure, dms.	2.10
capric acid, cum. pure, dms.	8.00
tanica	3.00
Capro aldehyde (aldehyde C-10) dms., see 10	3.85
Caprolactam monomer, flake, bgs., 1-l. f.o.b. shipping point	.87
moften, tanica, same base	.85
Cetyl alcohol spec. 92-98% tanica, dms.	.35
Caprylic acid, cum. pure tanica	.73%
Capicolum (see Pepper, red)	
Capicum oil (see Capsicum oleoresin)	
Capsicum oleoresin, NF, from dom. pepper, dms.	11.00
NF, from African pepper, dms.	8.00
800,000 pungency	17.00
1,000,000 pungency	22.00
Caraway oil, Poland, dms.	.54
Caraway seeds, Dutch, bgs.	.60
Egyptian, bgs.	
Carbon black, furnace, fast extruding, (FEF), bulk, o. l. works	2.125
gals. o. l. works	2.425
general purpose (GPP), bulk, o. l. works	2.375
bgs., o. l. works	2.375
High abrasion (HAF), high abrasion o. l. works	2.300
low abrasion (LAF), low abrasion o. l. works	2.350

Cacodyl, prime dms.	lb.	8.26
Cacodyl acetate, dist. dms.	lb.	4.26
Celery seed, Indian, bgs.	lb.	.48
Celery seed oil,	lb.	37.00
Celastrol, central,	l.	1.00
divd. E.	lb.	1.30
Cellulose acetate butyric, powd.,		
17% butyl content, bgs., divd. E.	lb.	1.76
38% butyl content, bgs., divd. E.	lb.	1.59
50% butyl content, bgs., divd. E.	lb.	1.81
65% butyl content, bgs., divd. E.	lb.	1.83
Cellulose gum, pure,	lb.	1.00
2,000-lb. lots or more, works.		
Cel. Hopewell, Va.	lb.	1.80
Cid., low or medium vis., bgs., o.l.	lb.	1.60
1-lb. lots, Hopewell, Va.	lb.	1.35
Carbuncle, India Co., 50 lbs.	lb.	1.35
Carum hydroxide 80% CaO , dms.,		
works.	lb.	5.40
Carum Co., oil, opt. cal. dms.	lb.	4.20
77% CaO , opt. cal. dms.	lb.	1.85
10-lb. or more, divd.	lb.	1.85
Castalcohol, NF, cat. o. l., divd. E.	lb.	58%
Chalk (see Calcium carbonate).		
Chloral flowers, Hungarian,	lb.	4.26
Roman, cal.	lb.	4.94
Egyptian, whole	lb.	2.70
Chromiolic acid, blue, Egyptian ..	lb.	345.00
blue, Hungarian	lb.	876.00
Chrys.	lb.	15.00
Chicago acid, dry, bbs., fr. ind.	lb.	13.50
Chiles (see Pepper, red).		
Chloride antimony, tech. dms., l., l.	lb.	1.30
works.		
Chlorinated paraffin, 40% chlorine,		
bulk, divd., Zone 1	lb.	.46
50% chlorine, same bbs.	lb.	.45
60% chlorine, same bbs.	lb.	.45%
75% chlorine, resolute, 50-lb.		
bgs., c. l., divd., Zone 1	lb.	.59

WEEK ENDING NOV 21, 1986

Perchlorostibulana drydeni sp. nov.

chlorophenylene, dry cleaning grade, clar., tanks, adv. ....	.b.	28½	Pigment green B, lgs. ....	.b.	2.20
indus., grade, consumers, tanks, adv. ....	.31	-	Pipecarboxylic acid, USP,	dms.	1,500.00
Paricid, dms.	2.65	-	Pimental oil, dms.	lids.	13.90
Permanent red 2B, (red 4B), calcium salts, dms., (fr. adv.)	5.25	-	Pine oil, 80% min. alcohol content, bulk, f.o.b. works	100 lb	47.00
salts, dms., same basis	5.25	-	dms., c.i., l.i.	100	51.00
Perrubalium, lgs.	5.00	-	Pine, bulk	100	1.62
Petrolatum of Paraguay ....	.b.	370	A-Phene, perfume grade	lb.	2.18
Petrolatum, USP, snow white, dms., tanks, rel. ....	.875	-	B-Phene, perfume grade, tanks	lbs	1.30
USP, soft white, dms., c.i., rel. ....	.310	-	tech. grade, tanks	lb.	.35
tanks, rel. ....	.375	-	Piperazine, anhyd.	lb.	1.50
USP, fly white, dms., c.i., rel. ....	.370	-	E.	lb.	2.25
Petrolatum, USP, fly white, rel. ....	.875	-	Piperazine citrate, 80% dms., 1,100- lb. lots, fr. adv.	lb.	2.00
USP, cream, dms., c.i., rel. ....	.385	-	Piperazine hexahydrate, 44% dms., 1,100-lb. lots, fr. adv.	lb.	1.80
tanks, rel. ....	.30	-	Piperazine phosphate, 42% dms., l.i., fr. adv.	lb.	1.80
USP, yellow, dms., c.i., rel. ....	.810	-	Piperidine, eth., 98% min., dms., c.i., l.i. lots, fr. adv.	lbs	8.92
tanks, rel. ....	.345	-	Piperidine butoxide, same, divd. E.	lb.	5.00
USP, amber, dms., c.i., rel. ....	.285	-	Piperylin, metal, works	Tray of	480.00
tanks, rel. ....	.280	-	Polyacetylene, fr.	fr.	1.84
Petroleum (see also Agip, petroleum)			Polyester resin, unacetylated, g. or naphthalene, bulk, tankers,	51	
Petroleum sulfonate, 85-92% aromatic cont., HMW, bulk, works ....	.494	.49	isophthalic, same basis	lb.	.44
HMW, same basis ....	.49	-	Polyethylene resin, high-density, blow molding, g. or hopper cars,	lb.	3.35
LMW, same basis ....	.49	.494	Injection molding,	lb.	4.43
Prices (see also Agip, petroleum)	lb. par lb.	lower on car	cars, fr. adv.	lb.	.44
spending molecular wt.			extrusion, g. or hopper cars, same basis	lb.	.47
Phenacetin USP, powd., 200-lb. lots, 1,000-lb. lots, adv.	2.20	2.45	wire and cable, net, hopper cars, same basis	lb.	.54
100-lb. dms., 100-lb. lots, adv.	2.22	-	wire and cable, same basis	lb.	.65
p-Phenendiol, dms., c.i., l.o.b.	2.00	-	Polyethylene resin, low-density, film clear, hopper cars,	lb.	3.35
Phenobarbital, USP, dms., 500-lb. lots, f.o.b. works	19.50	-	clarity film, hopper cars, fr.	lb.	.36
Phenobarbital sodium, NF,	27.00	-	adv.	lb.	.35
Phenol, syn. tanks, fr. equiv.	26	29	pellet shrink film, hopper cars, same basis	lb.	.35
p-Phenotoluenic acid, 98% softn., tanks, c.i., l.o.b. works ....	.84	-	extrusion casting, hopper cars, same basis	lb.	.37
tanks, same basis ....	.56	-	g. or hopper cars, same basis	lb.	.38
Phenothiazine, indust. grade, 50-lb. bags, c.i., l.o.b. works	2.33	-	Polyethylene linear low-density g-p. blown film resin	38	
purif. grade, same basis	2.69	-	cast film resin	40	
Phenyl acetate, dms., 100-lb. lots, works	1.04	-	Polyethylene resin, low-density injection molding, g-p., hopper cars, same basis	45	
Phenylacetic acid, pure crystal, 25-lb. cns.	4.50	-	wire and cable, polypropylene high- voltage, natural color, same basis	80	
di-Phenylalanine, NF,	84.00	-	wire and cable, XLPE low voltage, 14% carbon black, same basis	68	
1-Phenyl-3-carboxypropyl pyrazole-5, dms., 200-lb. lots, divd. E.	3.45	-	bulk, polyimide, lgs.	60	
2-Phenylvinylamine, dms., c.i., l.i., f.o.b. works	2.07	-	Polyming bullets, USP, but 60-million units/min.	62	
p-Phenylenediamine, flaked, dms., l.i., f.o.b. works	3.25	-	Polyoxyethylene sorbitol monosulfate, dms., 20,000-lb. lots,	73	
p-Phenylenediamine, flaked, dms., f.o.b. works	4.00	-	works	73	
Phenylthiophene hydrochloride, USP 100-lb. lots or more	178.00	185.00	Polypropylene resin, copolymer, g-p., net, l.i.,	45	
Phenylthiophene, dms.,	3.35	-	copolymer, med. impact, net,	50	
2-Phenylthiophene, NF, dms., c.i., f.o.b. works	2.10	2.20	same basis	53	
Phenylthiophene, dms., 30,000-lb. or more, fr. adv.	1.50	-	high impact, same basis	80	
Phenylthiophenyl acetate, 25-lb. cns.	4.50	-	Color masterbatch, per lb. higher for each grade	87	
Phenylglyoxal, acid (see Mandelic acid)			Polystyrene resin, crystal, net, hopper cars, fr. adv.	48	
Phenylhydrazine, 98% min., dms., lb.	3.50	-	impact, net, hopper cars, same basis	51	
1-Phenyl-3-methyl-5-pyrazolone, dms., 250-lb. lots, fr. adv.	1.80	-	high heat, high impact, net, hopper cars, same basis	62	
o-Phenylphenol, dms., l.i., works	1.85	2.00	expandable beads (EPS), pigging grades, 1,000-lb. lots,	69	
p-Phenylphenol, bgs., l.i., 40,000 lbs. or more, works	1.85	-	modified, same basis	73	
Phenylphenol, dms., l.i., works	24.00	26.00	vinyl alcohol, fully hydrolyzed, medium viscosity, bgs., l.i.,	1.05	
Phenylphenol, dms., l.i., works	24.00	26.00	parially hydrolyzed, medium viscosity, bgs., l.i., divd.	1.00	
Phenylsaccharin, purif. cryst., dms., E.	2.75	-	Polyvinyl chloride resin, g-p., homo- polymer depuration, bgs., l.i.,	50	
tech. cryst., E.	2.25	-	g-p. suspension, bulk, same basis	36	
Phloxine toner (red 90), dms., fr.	2.39	-	g-p. grade, bulk, same basis	37	
Phloxine toner (red 90), dms., fr.	1.86	2.05	lb. bulk, same basis	47	
Phosgene, net ret. cys., 5 to 10-cy. quantities, works ....	.55	.67	Polyvinyl chloride, g. or copolymer depuration, same basis	58	
Phosphate rock, flake, pebble, run of mine washed, 65-68% p.p.i. bulk, c.i. tanks, same basis	23.15	28.00	g-p. copolymer suspension, same basis	58	
Phosphate rock, flake, pebble, run of mine washed, 65-68% p.p.i. bulk, c.i. tanks, same basis	23.15	28.00	Polypropylene, Dutch bgs.	49	
Phosphoric acid, com. and tech. grades, 78% tanks,	28.00	-	Turkey, bgs.	48	
82% tanks, works	31.00	-	Potash agricultural (see Potassium sulfate)	53	
85% A.F. tanks, l.o.b. freight equival.,	33.50	-	Potash, caustic, liq., 45% basis, tanks, West Coast, 50% basis,	18.00	
Food grade, prices \$2.00 above tech. grade			at terminal	19.00	
52-54% g.p.a., tanks,	3.10	-	reg. tanks, 68-62%, 400-lb. cns. g- l.	42.38	
un-ion super, min. 70% g.p.a., same basis	3.45	-	Potassium acetate, 99% min., dms., c.i., works E.	90	
Phosphorus, white (yellow) and red, g- l. tanks, works, f.o.b. works	1.00	.91	Potassium bicarbonate, tech., gran, bgs., c.i., works	31.19	
Phosphorus oxychloride, tanks, fr. ....	.40	-	Potassium carbonate, tech., gran, bgs., c.i., works	31.19	
Phosphorus pentasulfide, powd., c.i., works	50.00	45.00	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
lots, bgs., sellers	45.00	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phosphorus pentoxide, dms., lb. works ....	.82	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phosphorus sesquisulfide, dms., cns., c.i., works ....	.38	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phosphorus trichloride, dms., c.i., works ....	.40	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
tanks, works ....	.85	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
Phthalic anhydride, lvs., c.i., l.i., dms., fr. adv. ....	.30	.27	Potassium chlorate, USP, gran, dms., l.i.,	18.00	
motor, tanks, same basis ....	.30	-	Potassium chlorate, USP, gran, dms., l.i.,		

	cathodized, 90-100% K ₂ CO ₃ , hopper cars or trucks.....	32.50	-
100.00	bgs., c.i.l., works.....	38.20	-
	drums.....	36.40	-
53.00	Potassium carbonate, gran., purif., 400-lb. dms., 8-in. lots.....	.40	.48
64.00	Potassium chloride, cryt. dms., c.i., 14-lbs.....	.14	.14
.23	powl. dms., c.i. works.....	.30	-
.40	purif., gran., 325-lb. dms., f.o.b. shipping point.....	.40	-
	Potassium chloride, chemical grade, dms., KCl, bulk, c.i., 100 lbs. works.....	105.00	-
2.35	USP cryt. dms.....	1.12	-
	USP powd. dms.....	.87	-
	Potassium chloride, agri. grade (see Potassium muriate).		
	Potassium chromate, purif., 100-lb. dms., works.....	.57	-
	Potassium citrate, NF, gran., 200-lb. dms., frt. add.....	.93½	-
	Potassium cyanide, dms., 25,000-lb. lots or more, f.o.b. work.....	1.32	-
	Potassium dichromate (see Potassium bichromate).		
1.86	Potassium fluoroborate, tech. dms., c.i., 1-lb. works, frt. equivd.....	1.40	1.42
.53	Potassium fluoride, anhyd., 1-lb. works.....	1.88	-
.82	Potassium gluconate, dms., 1-lb. f.o.b. works.....	1.45	-
.52	Price W, of Denver 4¢ per lb. higher.		
	Potassium manganosulfate, 300-lb. dms., 800 lbs. or more frt. equivd.....	2.10	-
.46	Potassium hydroxide, tech. (see Potash caustic).		
.46	Potassium hydrosulfate, USP, pellets, 100-lb. dms., c.i., 1-lb. works, frt. equivd.....	1.31	1.33
.65	Potassium iodide, USP, gran., cryt. dms., 1,000-lb. lots divid.....	10.72	12.58
.75	ACS grade bromid.....	11.32	13.39
.36	Potassium metasilicate, 300-lb. dms., works.....	68.00	-
.37	ton basis 40% K ₂ O, and 55% MgSiO ₃ bulk, works.....	87.00	-
	Potassium metabisulfate, gran. dms., 1-lb. works.....	.44	-
.42	Potassium muriate, 50-lb. c.i. min. K ₂ O, std., f.o.b. Saak, Canada.....	52.00	53.00
.40	Canada.....		
.43¾	Saak.....	53.50	54.50
.45	coarse, f.o.b. Saak.....	57.00	58.00
	gran., f.o.b. Saak.....	59.50	58.60
.48	Potassium nitrate, fast grade, std., 30-ton c.i., divid. dms.....	277.00	274.00
1.16	priced.....	277.00	284.00
	tech., gran., bgs., c.i., min. 50 tons, divid.....	470.00	-
.73	Potassium sulfate, neutral, tech., fine gran., powd., 300-lb. dms., frt. equivd.....	2.54	-
.81	Potassium persulfate, gran., bgs., c.i., same basis.....	1.01	-
	dms., same basis.....	1.06	-
	Potassium persulfate, 300-lb. pwt. higher.		
	Potassium perchlorate, dms., c.i., works.....	.78	-
	Potassium permanganate, fine flow-ing, bulk, hopper trucks, 1-lb. works.....	1.09	-
.46	50-kg. dms., same basis.....	1.30	-
.39	160-lb. dms., same basis.....	1.17	-
.90	Potassium permanganate, USP, 50-lb. kgz. works, c.i., 225-dms., 24,000-lbs. or more, f.o.b. plant.....	1.38	-
	cvt. c/i same basis.....	78.80	-
	Potassium pyrophosphate tribasic, bgs., c.i., 1-lb. works, frt. equivd.....	72.50	-
	liquid, bulk.....	63.75	64.00
	Potassium salicylate, USP, gran., 200-lb. dms., 20-lb. or more, frt. works, frt. add.....	46.00	48.50
1.05	USP, powd., 300-lb. dms., 2,000-lbs. or more, same basis.....	1.52	-
	Potassium sulfate, soln., 28.5-30.2 Bx, 100-lb. works, c.i., 1-lb. works, c.i., 1-lb. works.....	1.42	-
	Potassium silicate, 40-40.5 Bx, 21 re-100-lb. works.....	25.50	-
.47	40-40.5 Bx, 21 ratio, 100-lb. works, c.i., 1-lb. works.....	26.05	-
.81	Potassium silicate, electronic grade, 30-30.4 Bx, 21-2.2 ratio, 100-lb. works.....	32.05	-
.49	sold or glass, 2.15 ratio, dms., c.i., 1-lb. works.....	26.10	-
	sold or glass, 2.8 ratio, dms., c.i., 1-lb. works.....	33.10	-
	"Ratio" indicates percentage by weight of K ₂ O divided by weight of SiO ₂ .		
	Potassium sulfonate, bgs., c.i., 1-lb. frt. equivd.....	45.85	48.00
	Potassium tetraborate, NF, gran., 100-lb. works.....	1.14	.15
	Potassium uranyl acetate, NF, gran., 100-lb. works.....	.80	1.20
1.31	Potassium uranyl di. dms., divid. Bx.....	2.50	3.10
	Potassium stannate, dms., frt. add.....	N.A.	-
	Potassium sulfate, agricultural grade, mix 52% K ₂ O and acid, bulk, c.i., f.o.b. work.....	150.00	160.00
	Potassium sulfate, gran., purif., 400-lb. dms., 8-in. lots.....		
	Prednisolone, anhyd., USP, dms., 5 grains, lots or more.....	1.12	-
	Procaine hydrochloride, USP, dms., 5 grains, lots or more.....	1.12	-
	Procarine hydrochloride, USP, anisole ester, green, 2,000-lb. lots, frt. add.....	4.95	5.15
	Procarine hydrochloride, USP, ampic granule, dms., 1,000-lb. lots, frt. add.....	4.95	5.15
	Propionamide, tank, f.o.b. work.....	.38½	-
	Propylene acid, sym., pure, tanks, divid.....	.33	.34
	n-Propylacetate, tanks, divid.....	.52½	.42
	n-Propylalcohol, tanks, divid.....	.11.50	-
	n-Propylamine, tanks, divid.....	10.80	-
	n-Propylbenzene, tanks, divid.....	10.80	-
	n-Propylparaben (see n-Propylhydroxybenzoate).		
	Propylthiourea, dms., 50-kilo lots or more.....	55.00	-
	n-Propylenediamine, c.i. divid.....	.75	.28
	Pyrene, polymer grade, f.o.b. Tex. and La. Gulf Coast ports.....	.17½	.41
	chemical grade same basis.....	.40	.41
	Pyrolytic glycol, indust. tanks, f.o.b. U.S. tank, f.o.b. E. Coast.....	.43	.44
	Pyropylene glycol monomethyl ether, tanks, divid. E. Coast.....	.46	-
	Pyrophyllite oxide, tanks, f.o.b. work, frt. equivd.....	1.47½	-
	Payilum seed, USP powl. bgs.....	1.56	1.15
	Pumice, conc., fine, 4F-D, bgs., ton lots.....	270.85	-
	medium, 0/1-1/4, bgs., ton lots.....	300.00	-
	coarse, 2-extra coarse, bgs., ton lots.....	300.00	-
	Pyrene, imp., Italian, fine, bgs., ton lots f.o.b. East Coast.....	280.00	-
	medium, bgs., ton lots f.o.b. East Coast.....	350.00	-
	coarse, bgs., ton lots f.o.b. East Coast.....	300.00	-
	Pyrazosoline red (red 38), dms., 100-lb. lots.....	13.00	13.16
	Pyrethrum flowers, fine grd. 0.9% pyrethrins, tonlots, frt. add.....	1.91	-
	Pyrethrum, purif., 20% pyrethrins, dms., works.....	37.50	37.5
	Pyridine, reft., 2-dag, c.i., works dms.....	5.90	-
	tanks.....	5.90	-
	Pyridine hydrochloride, USP, 100-lb. tanks.....	36.00	-
	Pyrites, Canadian 48-50% S, mines.....	4.80	6.0
	Pyrosulfic acid (see Pyrogallic).		
	Pyrogallol, 100-lb. lots, 1,000-lb. lots, divid.....	13.70	13.5

Q

Quercus chips.....	lb.	27	-
Quinacridone maroon, dms., frt. add.....	50.00	31.0	-
Quinacridone, red, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
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Quinacridone, violet, frt. add.....	24.28	32.0	-
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Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
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Quinacridone, violet, frt. add.....	24.28	32.0	-
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Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
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Quinacridone, violet, frt. add.....	24.28	32.0	-
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Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt. add.....	24.28	32.0	-
Quinacridone, violet, frt.			

[illegible]

Sodium phenobarbital, 100 lbs.		
Sodium phenobarbital, powd., dms.	78	
Sodium phosphite, anhyd., obase		
tech., bgs., c.i., ll., works, frr.		
equid., 100 lbs.	54.50	
food grade, same basis, 100 lbs.	57.50	
Sodium phosphite, monobasic, tech.,		
same basis, 100 lbs.	56.75	
food grade, same basis, 100 lbs.	56.75	
tribasic, tech., same basis, 100 lbs.	62.75	
food grade, same basis, 100 lbs.	63.25	
chlorinated, tech., same basis, 100 lbs.	51.25	
cryst., tech., same basis, 100 lbs.	50.50	
cryst., food grade, same basis,		
als., 100 lbs.	35.50	
USP, dried, powd., bgs., dms.,		
100 lbs.		
Sodium phosphenite, tech., same		
lb. dms., dry basis, divd., 1 lb.	5.50	
Sodium propionate, dms., 2,000 lbs. or		
more, f.o.b. frr. sold., 100 lbs.	54	
Sodium pyrophosphate, tech., bgs.,		
c.i., works, frr. equid., 100 lbs.	58.25	
food grade, non-leavening, bgs., c.i.,		
works, frr. equid., 100 lbs.	61.25	
Sodium pyrophosphate, feric, dms.,		
c.i., ll., works, 100 lbs.	38.80	
Sodium pyrophosphate, tetrabasic,		
anhyd., tech., bgs., c.i., ll.,		
works, frr. equid., 100 lbs.	44.75	
bulk, hopper cars, same basis,		
als., 100 lbs.	42.50	
food grade, bgs., c.i., ll., same basis,		
100 lbs.	53.25	
Sodium sulfite, USP, tech., same basis,		
dms., 1,000-lb. lots or more,		
works, frr. equid., 100 lbs.	3.00	
USP, powd., 200-lb. dms., 1,000-lb.		
lots or more, same basis, 100		
lbs.	3.00	
Sodium ascorbylsulfonate, bulk, c.i.,		
works, 100 lbs.	17.05	
Sodium bicarbonate, tech., c.i., ll., works,		
1,000-lb. lots or more, 15.75		
bgs., c.i., ll., works, 100 lbs.	17.75	
1.95-2.20 ratio, bulk, c.i., ll.,		
works, 100 lbs.	20.30	
bgs., c.i., ll., works, 100 lbs.	22.15	
soln., 37.6° solid, 3.22-2.25		
ratio, bulk, c.i., ll., frr.		
equid., 100 lbs.	5.30	
*Ratio indicates percentage by weight of		
percentage by weight of Na ₂ O, divided by		
anhydrous, bgs., c.i., ll.,		
works, frr. equid., 100 lbs.	17.85	18.75
Sodium silicate, dms., 100 lbs.	14.4	
Sodium sulfinate, dms., works, 100		
lbs.	22	
Sodium sulfite, NF XII, powd., dms.,		
2,000-lb. lots, 23%		
tech., deliquescent, rayon-grade, c.i.,		
100 lbs.	90.00	98.00
Sodium sulfate, Weel, bulk, c.i., works,		
frr. equid., 100 lbs.	90.00	101.00
bulk, c.i., East, same basis, 100		
lbs.	113.00	114.00
Sodium sulfate, photo grade, tech.,		
bgs., c.i., works, 100 lbs.	47.00	53.00
Sodium sulfhydrate, flakes, 70-72%,		
dms., c.i., works, frr.		
equid., 100 lbs.	500.00	
liq., 44-45% flakes, works, frr.		
equid., 100 lbs.	500.00	
Sodium sulfite, flakes, dms., c.i., works,		
E, frr. equid., 100 lbs.	470.00	
bgs., same basis, 100 lbs.	410.00	
Sodium sulfite, fused, dms., c.i.,		
works, E, frr. equid., 100 lbs.	240.00	
Sodium sulfite, anhyd., tech., 98-100%		
bgs., 100-lb. works, 23.75		
Sodium sulfoxycarbide CP (see Sodium		
sulfate tetrahydrate base Bored).		
Sodium tetraborate, liq., 34% dms.,		
c.i., works, frr. equid., 540.00		
Sodium thioacetate, purif., crys., 250-		
lb. dms., 5 dms. or more		
100-lb. works, 8.25		
tech., anhyd. dms., 2,000 lbs. or		
more, works, .97		
Sodium thiosulfate, tech., photo-grade,		
anhyd., 100-lb. dms., c.i., ll.,		
works, frr. equid., 100 lbs.	45.50	
cryst., deliquescent, 1 lb. same		
basis, 100 lbs.	28.50	
Sodium titanate, dms., c.i., works, 1 lb.		
14.4		
Sodium trichloroacetate, 99%, 50-lb.		
bgs., c.i., frr. equid., 28		
Sodium trichlorophosphate, tech., bgs., c.i.,		
ll., works, frr. equid., 100 lbs.	39.75	
bulk, hopper cars, same basis, 100		
lbs.	37.50	
food grade, bgs., c.i., ll., same		
basis, 100 lbs.	45.50	
Sodium tungstate, tech., high mol.,		
dms., 10,800 lbs. or more, frr.		
equid., 5.00	5.50	
Potli grade dms., 10,800 lbs. or		
more, same basis, 100 lbs.	3.00	
Sodium-ammonium phosphite, purif.,		
cryst., dms., 52°-55° f.	52	
Sodium-formate-sulfate sulfoxycarbide		
anhyd., li., f.o.b. works, 1 lb.	.91	
Sodium-zincpyruvate, dms., 1,000-		
lb. lots or more, works, 1 lb.	.28	
tech. dms., any quantity, works, 1 lb.	.15	
Silver nitrate, peroxide, straight		
ammoniac, bi., 520°-550° f.		
SPF m.l.c., leaves		
New Jersey	1.62	
Houston	1.41	
Whole	1.54	
Silver nitrate, peroxide, straight ammoniac, bi., 560° f.		
New Jersey	1.30	1.95
Houston	1.30	
Whole	1.38	
Silver nitrate, peroxide, straight ammoniac, bi., 560° f.		
New Jersey	1.50	1.10
Houston	1.50	
Whole	1.50	

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WEEK ENDING NOV 21, 1988

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CHEMICAL PRICES

WEEK ENDING NOV 21, 1986

Sulfuric acid, 100% tanks, works	71.75	85.90
East Coast	76.00	89.40
Midwest	80.25	-
Southeast	85.15	-
West Coast	85.00	-
NOTE: For prices on 50 and 100 lb. bags, multiply by .7767 and .5118, respectively. For prices of 20% fuming sulfuric acid, add \$3-\$4 to above prices and multiply by 1.045.		
Sulfuric acid, 20% fuming, tanks, works	48.00	52.00
East Coast	50.00	54.00
Midwest	53.15	-
Southeast	58.00	62.00
West Coast	58.00	-
Superphosphate, 46% or more, tanks, works	16.50	18.00
East Coast	17.00	19.00
Midwest	17.50	-
Southeast	18.00	20.00
West Coast	18.00	-

T

Talc, com, grad. New York bgs, c.i.	84.00	-
85-95% mesh, bgs, c.i.	84.00	90.00
Talc, com, 95-95% mesh, bgs, c.i.	187.00	238.00
625 mesh, micronized, bgs, c.i.	200.00	-
dom, ord, Calif. grad. bgs, c.i.	90.00	-
ord, Vermont, off-color grad. bgs, c.i.	138.00	-
imp, Canadian, grad. bgs, c.i.	70.00	84.00
Tell oil, crude, Southeast, tanks	90.00	100.00
Tell oil, refined, same base, tanks	18	23
Tell oil, 2% or more rosin, tanks	20.50	23.50
Tell oil, less than 2% rosin, tanks	22	27
Tell oil (see also 5 Waxes market report)	-	-
Tell oil, fatty acids, tech, non-ref.	37	40
tanks, c.i.	29	45
hydrogenated, tech, fatty acids, c.i.	37	43
tanks, c.i.	35	42
Tergitol, c.i., 100% bgs, c.i.	8.50	8.50
Tergitol, animal lauryl, 8-11%, 100% New York, bgs, c.i.	5.50	-
Tergitol, 1st grade (see Nitrogenous process tanks)	-	-
Tergitol, 2nd grade, 100% bgs, c.i.	8.00	-
Tergitol, 3rd grade, 100% bgs, c.i.	4.92	-
Tar acid, 15-18% 11, dms, 100% works	1.40	-
25-28% 11, dms, 100% works	1.58	-
50-55% 11, dms, 100% works	1.87	-
Tartrate acid, NF, bgs, c.i.	1.20	1.50
Tetanus, metalurgical, 100% works	12.00	-
Tetralin, NF, imp, cryst, powd.	1.35	-
35 kgs drums, 100% bgs, c.i.	1.10	1.50
Tetralin, NF, imp, cryst, powd.	2.40	-
Tetralin, 1st grade, 100% bgs, c.i.	1.35	2.05
Tetralin, 2nd grade, 100% bgs, c.i.	4.50	-
Tetralin, 3rd grade, 100% bgs, c.i.	-	-
Tetralin, 4th grade, 100% bgs, c.i.	-	-
Tetralin, 5th grade, 100% bgs, c.i.	-	-
Tetralin, 6th grade, 100% bgs, c.i.	-	-
Tetralin, 7th grade, 100% bgs, c.i.	-	-
Tetralin, 8th grade, 100% bgs, c.i.	-	-
Tetralin, 9th grade, 100% bgs, c.i.	-	-
Tetralin, 10th grade, 100% bgs, c.i.	-	-
Tetralin, 11th grade, 100% bgs, c.i.	-	-
Tetralin, 12th grade, 100% bgs, c.i.	-	-
Tetralin, 13th grade, 100% bgs, c.i.	-	-
Tetralin, 14th grade, 100% bgs, c.i.	-	-
Tetralin, 15th grade, 100% bgs, c.i.	-	-
Tetralin, 16th grade, 100% bgs, c.i.	-	-
Tetralin, 17th grade, 100% bgs, c.i.	-	-
Tetralin, 18th grade, 100% bgs, c.i.	-	-
Tetralin, 19th grade, 100% bgs, c.i.	-	-
Tetralin, 20th grade, 100% bgs, c.i.	-	-
Tetralin, 21st grade, 100% bgs, c.i.	-	-
Tetralin, 22nd grade, 100% bgs, c.i.	-	-
Tetralin, 23rd grade, 100% bgs, c.i.	-	-
Tetralin, 24th grade, 100% bgs, c.i.	-	-
Tetralin, 25th grade, 100% bgs, c.i.	-	-
Tetralin, 26th grade, 100% bgs, c.i.	-	-
Tetralin, 27th grade, 100% bgs, c.i.	-	-
Tetralin, 28th grade, 100% bgs, c.i.	-	-
Tetralin, 29th grade, 100% bgs, c.i.	-	-
Tetralin, 30th grade, 100% bgs, c.i.	-	-
Tetralin, 31st grade, 100% bgs, c.i.	-	-
Tetralin, 32nd grade, 100% bgs, c.i.	-	-
Tetralin, 33rd grade, 100% bgs, c.i.	-	-
Tetralin, 34th grade, 100% bgs, c.i.	-	-
Tetralin, 35th grade, 100% bgs, c.i.	-	-
Tetralin, 36th grade, 100% bgs, c.i.	-	-
Tetralin, 37th grade, 100% bgs, c.i.	-	-
Tetralin, 38th grade, 100% bgs, c.i.	-	-
Tetralin, 39th grade, 100% bgs, c.i.	-	-
Tetralin, 40th grade, 100% bgs, c.i.	-	-
Tetralin, 41st grade, 100% bgs, c.i.	-	-
Tetralin, 42nd grade, 100% bgs, c.i.	-	-
Tetralin, 43rd grade, 100% bgs, c.i.	-	-
Tetralin, 44th grade, 100% bgs, c.i.	-	-
Tetralin, 45th grade, 100% bgs, c.i.	-	-
Tetralin, 46th grade, 100% bgs, c.i.	-	-
Tetralin, 47th grade, 100% bgs, c.i.	-	-
Tetralin, 48th grade, 100% bgs, c.i.	-	-
Tetralin, 49th grade, 100% bgs, c.i.	-	-
Tetralin, 50th grade, 100% bgs, c.i.	-	-
Tetralin, 51st grade, 100% bgs, c.i.	-	-
Tetralin, 52nd grade, 100% bgs, c.i.	-	-
Tetralin, 53rd grade, 100% bgs, c.i.	-	-
Tetralin, 54th grade, 100% bgs, c.i.	-	-
Tetralin, 55th grade, 100% bgs, c.i.	-	-
Tetralin, 56th grade, 100% bgs, c.i.	-	-
Tetralin, 57th grade, 100% bgs, c.i.	-	-
Tetralin, 58th grade, 100% bgs, c.i.	-	-
Tetralin, 59th grade, 100% bgs, c.i.	-	-
Tetralin, 60th grade, 100% bgs, c.i.	-	-
Tetralin, 61st grade, 100% bgs, c.i.	-	-
Tetralin, 62nd grade, 100% bgs, c.i.	-	-
Tetralin, 63rd grade, 100% bgs, c.i.	-	-
Tetralin, 64th grade, 100% bgs, c.i.	-	-
Tetralin, 65th grade, 100% bgs, c.i.	-	-
Tetralin, 66th grade, 100% bgs, c.i.	-	-
Tetralin, 67th grade, 100% bgs, c.i.	-	-
Tetralin, 68th grade, 100% bgs, c.i.	-	-
Tetralin, 69th grade, 100% bgs, c.i.	-	-
Tetralin, 70th grade, 100% bgs, c.i.	-	-
Tetralin, 71st grade, 100% bgs, c.i.	-	-
Tetralin, 72nd grade, 100% bgs, c.i.	-	-
Tetralin, 73rd grade, 100% bgs, c.i.	-	-
Tetralin, 74th grade, 100% bgs, c.i.	-	-
Tetralin, 75th grade, 100% bgs, c.i.	-	-
Tetralin, 76th grade, 100% bgs, c.i.	-	-
Tetralin, 77th grade, 100% bgs, c.i.	-	-
Tetralin, 78th grade, 100% bgs, c.i.	-	-
Tetralin, 79th grade, 100% bgs, c.i.	-	-
Tetralin, 80th grade, 100% bgs, c.i.	-	-
Tetralin, 81st grade, 100% bgs, c.i.	-	-
Tetralin, 82nd grade, 100% bgs, c.i.	-	-
Tetralin, 83rd grade, 100% bgs, c.i.	-	-
Tetralin, 84th grade, 100% bgs, c.i.	-	-
Tetralin, 85th grade, 100% bgs, c.i.	-	-
Tetralin, 86th grade, 100% bgs, c.i.	-	-
Tetralin, 87th grade, 100% bgs, c.i.	-	-
Tetralin, 88th grade, 100% bgs, c.i.	-	-
Tetralin, 89th grade, 100% bgs, c.i.	-	-
Tetralin, 90th grade, 100% bgs, c.i.	-	-
Tetralin, 91st grade, 100% bgs, c.i.	-	-
Tetralin, 92nd grade, 100% bgs, c.i.	-	-
Tetralin, 93rd grade, 100% bgs, c.i.	-	-
Tetralin, 94th grade, 100% bgs, c.i.	-	-
Tetralin, 95th grade, 100% bgs, c.i.	-	-
Tetralin, 96th grade, 100% bgs, c.i.	-	-
Tetralin, 97th grade, 100% bgs, c.i.	-	-
Tetralin, 98th grade, 100% bgs, c.i.	-	-
Tetralin, 99th grade, 100% bgs, c.i.	-	-
Tetralin, 100th grade, 100% bgs, c.i.	-	-

Thiuron nitrate, purif. dms.	100-lb. drums, works	2.75	-
d-Thiuron, dms	100 kilos work	128.00	-
Thyme leaves, French, bgs.	20-lb. lots, alt.	1.45	-
Spanish, bgs.	20-lb. lots, alt.	1.40	-
Thymol, purif.	dms.	22.00	-
Thymol, dms.	100-lb. lots, alt.	3.75	6.1
Thymol foddie, dms.	100-lb. lots, alt.	62.30	56.2
Thymol, dms.	100-lb. lots, alt.	N.A.	-
Titanium dioxide, anatase, bgs.	20-lb. lots, alt.	77	7
slurry shipments, 50-lb. lots, dry base, fts.	alt.	.78	-
Titanium dioxide, rutile, neg. base, 20-lb. lots, fts.	alt.	.81	8
slurry shipments, 50 lb. lots, dry base, fts.	alt.	.84	-
Non-aqueous, 50-lb. lots, per pound more.	-	-	-
Titanium hydride powd. electronics grade, dms.	20-lb. lots, alt.	28.50	-
Titanium tetrachloride, tech, bulk, c.i.	alt.	30	3
200-gal. drums, c.i.	alt.	.50	-
Titanium sponge, 99.9% fiber drums, less than 5.0 lbs. l.o.b.	alt.	4.25	-
Tobacco, alt.	alt.	50.05	-
d-Tocopherol, 67%, dms.	100-lb. lots, alt.	64.08	-
d-Tocopheryl acetate, 81% conc. dms.	alt.	67.49	-
d-Tocopheryl acid succinate, cryst. dms.	alt.	78.44	-
d-Tocopherol, dms.	alt.	27.40	-
d-Tocopheryl acetate, USP 50-kilo c.i. 1000 kilo min.	alt.	16.00	16.5
50% dry powd., 50-kilo c.i.	alt.	17.00	-
Toluene, alt.	alt.	1.53	8.0
Toluene, petroleum, ind. ozonation tanks, alt.	alt.	-	-
Atlanta, Ga., dms.	alt.	.70	-
Bayonne, N.J., dms.	alt.	.70	-
Birmingham, Ala., dms.	alt.	.70	-
Chicago, Ill., dms.	alt.	.70	-
Clanton, Pa., l.o.b.	alt.	.70	-
Dear Park, Ind., dms.	alt.	.70	-
Elk River, Ind., dms.	alt.	.70	-
Gulf Coast appt. barge, alt.	alt.	.70	-
Houston, Tex., dms.	alt.	.70	-
New Jersey Metro, dms.	alt.	.70	-
Philadelphia, Pa., dms.	alt.	.70	-
Piedmont, N.C., dms.	alt.	.70	-
Toluene di-isocyanate (mixed isomers, 80% 2,4- and 20% 2,6- isomers, jump tanks), dms.	alt.	1.01	-
p-Toluenesulfonic acid, powd., dms.	alt.	3.55	-
alt.	alt.	3.10	-
m-Toluidine, tech, bulk, alt.	alt.	.70	-
o-Tolidine, tech, liq., dms. c.i.	alt.	.70	-
alt.	alt.	.82	8
p-Toluidine, tech, alt.	alt.	1.80	1.8
alt.	alt.	1.70	-
alt.	alt.	1.03	-
alt.	alt.	1.05	-
alt.	alt.	.88	-
Tolylisocyanate, tank, 1,000-lb. lots, l.o.b.	alt.	2.50	-
alt.	alt.	2.60	-
Tonka beans, Ang., alt.	alt.	8.90	-
1,000-lb. lots, works	alt.	.38	-
Tocophene, tank, alt.	alt.	36.00	40.0
Thapsigargin gum, No. 1, fibrous, c.i.	alt.	12.50	19.0
Thiactin tanks, dms.	alt.	.76	-
Triethyl alurate, lt., drums, l.o.b., works	alt.	1.70	-
Triethyl phosphate, tank, alt.	alt.	1.65	1.7
Triethylamine, tank, c.i., dms.	alt.	1.30	-
alt.	alt.	1.33	-
Trichloroacetic acid, tech, 300-lb. drums, c.i., l.o.b., works	alt.	.94	-
1,2,4-Trichlorobenzene, pure, tanks, dms.	alt.	.81%	-
1,1,1-Trichloroethene, tanks, containers, alt.	alt.	.42	-
1,1,2-Trichloroethene, tanks, l.o.b. works	alt.	.40	-
Trichloroethylene, tanks, dms.	alt.	.38%	-
Trichloroethylene, alt., dms.	alt.	1.28	-
Trichlorophenol, alt.	alt.	-	-
Trichloro citrate, 65%, soln., non-re- tard., 1,600-lb. lots, tank	alt.	1.35	-
Triethyl phosphate, tanks, l.o.b.	alt.	1.60	1.7
Triethyl alcohol, mixed isomers, tech, dms.	alt.	.57	-
Triethanolamine, 55%, tanks, dms.	alt.	.35	3
50% tanks, alt.	alt.	.35	3
Triethanolamine lauryl alcohol, tanks, l.o.b. works	alt.	.27%	27
Triethylamine, dms., alt.	alt.	1.23	-
alt.	alt.	1.30	-
Triethyl citrate, tank, l.o.b.	alt.	1.82	-
Triethyl phosphate, tanks, dms.	alt.	1.18	-
Triethyl phosphate, tanks, l.o.b. Gulf Is.	alt.	.27	-
Triethylphosphorochloridate, tanks, l.o.b. works	alt.	.49%	-
40-60% tanks, 100% base, fts.	alt.	.35	-
alt.	alt.	1.43	1.4
Triisobutyl trimellitate, tank, alt.	alt.	.81	8
Triisobutylene, tanks, dms.	alt.	.46	-
Triisopropylamine, dms., alt.	alt.	.57%	-
alt.	alt.	.54%	-
25% soln., tanks, fts. equid., 100% base, alt.	alt.	.63%	-
40% base, fts. equid., 100% base, alt.	alt.	.55%	5
Trimethylpropane bgs c.i. lt. dms.	alt.	.73	-
Trimethylpropane isocrylate, lt., dms.	alt.	1.80	-
Triphenyl phosphite, tanks, alt.	alt.	1.00	-
Triphenyl phosphate, dms., lt., fts.	alt.	1.64	7
Tripropylene glycol tanks, fts. alt.	alt.	.84	-
Tris(hydroxymethyl)nitromethane acid, lt. works	alt.	.805	-
Tris(hydroxymethyl)nitromethane phosphate (see Sodium phosphate, tris(hydroxymethyl)nitromethane), alt.	alt.	62.00	65.00
Tung oil, tanks, imp. tank	alt.	1.31	-
Tung oil acid 92.5%, dms., 1,750- 6,000 lbs. works	alt.	12.95	-

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DRYERS

Drum Dryers/Fiskers

(1) 24" dia. x 36" Builvac SS dble. drum dryer

(2) 36" dia. x 108" Shaw Knox CI dble. drum dryer

(3) 36" dia. x 17'8" Sandvik SS belt liaker

(4) 36" dia. x 10' Builvac CI dble. drum dryer

(5) 42" dia. x 120" Shaw Knox CI dble. drum dryer

(6) 48" dia. x 28" drum liaker, chrome plated drum

(7) 48" dia. x 40" CI liaker, mfg. by Buffalo Foundry

(8) 48" dia. x 40" drum liaker, nickel plated drum, mfg. Shaw-Knox

Fluid Bed

(1) 60 Kg. Asromatic, Batch, 8' x 6', 55,000

(2) 100 Kg. Asromatic Model ST 100, sanitary

(3) 100 Kg. Asromatic Model FA 250, SS, 20 HP XP

Holoflites

(1) Western Precipitation Model P8080-A, twin screw, 12" dia. x 20' long, SS constr., jct. roller, 18 psl, complete with 7.5 HP variable drive

(2) New/Used Joy Processor, CS, single screw, 16" x 16" long, rated 110 psl @ 340° F, sprocket & chain drive with 1.5 HP variable drive

Rotary Vacuum

(1) 20 Cu. Ft. Stokes, SS constr., compit.

(2) 165 Cu. Ft. Plaudier, Double Cone, 9' x 30' long, 150 psl, 1.5 HP variable drive

(3) 150 Cu. Ft. Plaudier, Double Cone, 9' x 30' long, 150 psl, 1.5 HP variable drive

(4) 150 Cu. Ft. Plaudier, Double Cone, 9' x 30' long, 150 psl, 1.5 HP variable drive

(5) 150 Cu. Ft. Plaudier, Double Cone, 9' x 30' long, 150 psl, 1.5 HP variable drive

(6) 150 Cu. Ft. Plaudier, Double Cone, 9' x 30' long, 150 psl, 1.5 HP variable drive

(7) 150 Cu. Ft. Plaudier, Double Cone, 9' x 30' long, 150 psl, 1.5 HP variable drive

(8) 150 Cu. Ft. Plaudier, Double Cone, 9' x 30' long, 150 psl, 1.5 HP variable drive

(9) 150 Cu. Ft. Plaudier, Double Cone, 9' x 30' long, 150 psl, 1.5 HP variable drive

(10) 150 Cu. Ft. Plaudier, Double Cone, 9' x 30' long, 150 psl, 1.5 HP variable drive

Spray

(1) 30" x 30" Bowen Laboratory w/3' cone bottom, SS constr., w/centrifugal stirrer, 3 HP motor & motor

(2) Niro lab size 32" dia. x 2' cone w/centrif. stirrer, SS constr.

(3) 16" dia. Bowen compit. system SS constr., new 1978

CENTRIFUGES

(1) Delaval BRP 306, SS, 20HP

(2) Unused Model 8-10 Podbelnik, Alloy 20

(3) Sharples AS-26, 1688

(4) Sharples AS-48, 3188

(5) Alfa-Laval SS Decanter, Horiz., Mdl. NX314

(6) Dorr Oliver Mdl. CH30 CSU "Marco", 3188S constr., 150 HP

(7) Baker Perkins S-32 "Pusher Type", 98, 50 HP

(8) Bird 12" x 28", 318 ELC, contour bowl

(9) Bird 24" x 36", 3188S, 40 HP

(10) Sharples P-3000, 3188S, 30 HP

(11) Sharples P-1000, SS 20HP

(12) Unused Bird 36 x 96, 317L SS

(13) 40" x 20" Tottum centrifuge, Kynar shed, part. basket

(14) Tottum 48" x 24" perf. basket, 3188S, 1688S, 20 HP

(15) Tottum 48" x 24" Batchmaster, 3188S, perf. basket, w/hydr. plow & 20 HP hydr. drive

(16) Tottum 48" x 24" Batchmaster, rubber lined, perf. basket, w/hydr. plow & 20HP hydr. drive

(17) Tottum 48" x 24" Batchmaster, Hereite lined, perf. basket, w/hydr. plow & 20 HP hydr. drive

(18) Waterman 48" x 24", 318 SS

(19) Fletcher 48" x 28" Suspended type, SS perf. basket, 20 HP

(20) Sharples Tornado 48" x 30", 3188S, perf. basket, 40 HP XP

(21) Alfa Laval Model MAPX 210 T24, SS wetted parts

(22) Sharples C-27, 318 SS, wetted parts, 40 HP

(23) Sharples C-27, Super 5-Wydrator, SS, 30 HP

(24) Dorr Oliver Marcone Sorensen Model C-400 X2, all SS, twin screw disch., 10 HP

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1-8' dia. x 50' Bartlett Snow Rotary Dryer, SS, 100 HP.

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1-11'6" x 70' Ig. Bartlett Snow Calciner, 3188S, 1100°C., complete.

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1-24,000 Gal. Mix Tank, SS constr., 18' dia. x 16', 20 HP.

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1-10,000 Gal. Mix Tank, SS constr., 13' dia. x 10', 30HP.

1-10,000 Gal. Mix Tank w/Int. coils, 13' dia. x 10', 30 HP.

1-Merley NC Tower, 88"V. x 14'6" L x 9'H.

1-150 sq. ft. Micro-Pul Reverse Jet Ouel Collector, CS constr.

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(1) 1 Sq. Ft. Air-Like "Kort" Multi-Effect, 3188S, 1.5 HP

(2) 1.4 sq. Ft. Luma Thin Film, 3188S, 1.5 HP

(3) 1.4 sq. Ft. Luma Thin Film, 3188S, 1.5 HP

(4) 1.4 sq. Ft. Luma Thin Film, 3188S, 1.5 HP

(5) 1.4 sq. Ft. Luma Thin Film, 3188S, 1.5 HP

(6) 1.4 sq. Ft. Luma Thin Film, 3188S, 1.5 HP

(7) 1.4 sq. Ft. Luma Thin Film, 3188S, 1.5 HP

(8) 1.4 sq. Ft. Luma Thin Film, 3188S, 1.5 HP

(9) 1.4 sq. Ft. Luma Thin Film, 3188S, 1.5 HP

(10) 1.4 sq. Ft. Luma Thin Film, 3188S, 1.5 HP

FILTERS

Pressure Leaf

1-582 Sq. Ft. 318ELC, Hercules, 26 leaves

1-512 Sq. Ft. 3188S, Niagara, 21 leaves

1-400 Sq. Ft. R/L Sparkler

1-327 Sq. Ft. 304SS, Ind. Filter, 11 leaves

1-320 Sq. Ft. Duroco 318 SS, 11 Leaves

1-250 Sq. Ft. Pronto Mdl. #3259, 7 & 1/2 psl

1-200 Sq. Ft. SS, Hercules, Horiz.

1-181 Sq. Ft. Enzinger, SS, Vert., 75 psl

1-157.64 sq. Ft. Sparkler model SS-5-28, 3188S

1-150 Sq. Ft. Horiz., 12 Vert. Leaf 3188S

1-135 Sq. Ft. Ni. Bowser, Vert.

1-35 Sq. Ft. Hercules Model 5, 316 SS, horiz. tank vert leaves 50 psl

1-Sparkler Mdl.#18 D 12, SS constr.

1-Sparkler Mdl.#18 D 4, constr.

1-Sparkler Mdl.#33S 28, constr.

Rotary Vacuum

1-55.5 Sq. Ft. K-6, Inconel 600

1-55.5 Sq. Ft. K-6, 3188S, flexibelt disch.

1-87.82 Sq. Ft. Paine, SS wetted parts, spring disch., 58" dia. x 8' face drum

1-132 Sq. Ft. Dorr Oliver, 304SS, maxibelt disch.

1-200 Sq. Ft. Elanco, 3188S, 8' x 2' x 10', SS

4-250 Sq. Ft. D.O. 318L SS Precoat, 8' x 10', SS

1-250 Sq. Ft. K-6 3188S, coil disch.

1-300 Sq. Ft. Elanco, 3188S wetted parts, precoat type w/knife disch., 10" dia. x 18' drum, compit. w/control panel & aux. equipment

1-314 Sq. Ft. Elanco, precoat disch., 3188S

1-400 Sq. Ft. Elanco, CS, Precoat

1-500 Sq. Ft. Elanco, 3188S, belt disch.

1-3'x1' 3188S, knife disch.

1-3'x1' Dorr Oliver, FRP w/receiver & Nash H4 vac. pump, 10 HP

1-3'x1' K-6 comp. sys., 318 SS Flex-belt disch.

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(1) Mdl. #0480-8 Fittm w/18 HP motor & 20 HP stand.

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4,000 Gal. Plaudier, 100/90 psl, TW

4,000 gal Plaudier, 80/30 psl

3,700 gal Glascoia, 80 & 15/90 psl

3,000 gal Glascoia, 50 & 15/90 psl

3,000 gal Plaudier, 75/90 psl

2,000 gal Plaudier, 75/60 psl

1,000 Gal. Plaudier, 100&15/90 psl, 4RW

1,000 Gal. Plaudier, RABO Series, 100&15/90 psl, 4RW

1,000 Gal. Plaudier, RABO Series, 100&15/90 psl, 4RW

800 Gal. SS clad, 60/60 psl

750 gal. DeDietrick, Phila drive

500 Gal. Plaudier, 100&15/90 psl, 4RW

Stainless Steel

4,000 Gal. 318SS, Atmos./80 psl, w/locks

3,000 Gal. 318SS, Shaw Knox, 100/90 psl

2,500 Gal. 318L SS, 75/75 psl, 150 psl w/lock

2,000 Gal. Nootar Autoclave, 318L 2000 psl, FV int. coils

2,000 Gal. Dusenberry, 318 SS, 15/30 psl, FV int. coils

1,750 Gal. 318SS Nolla, 1487/50 psl

1,500 Gal. 304SS, 10 HP Lightnin

1,500 Gal. 304 SS, 100/30 psl

1,000 Gal. 304SS, 250/80 psl

1,000 Gal. 318SS, 60/75 psl

1,000 Gal. 318 SS, 15 & 15/50, 10 HP

750 Gal. 318SS, 75 & 15/50 psl

750 Gal. 304SS, 50/60 psl

600 Gal. 318SS, 300/60 psl, 10 HP

600 Gal. SS, 60 psl, 1.5 HP XP

500 Gal. 318SS, 55 & 15/55 psl

480 SS, 60/75 psl

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100 Gal. 318ELC SS, 500/90 psl

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15 Gal. W.C. Ruedco Sigma Blade Dkt. am

25 gal. Ruedco DBL/Arm Sigma Blade Jck. SS constr. 16 H.P.

80 Gal. Hookmeyer Pony, SS constr., 7.5 HP w/10' speed

100 Gal. SS, Sigma Blade, Jckld., 40 HP

200 gal. W-P CS dble arm Sigma blade, 20 HP

250 gal. AMK Knaeder Extruder, SS blades, CS constr., 40 psl, 10 HP

500 liter Walax hi intensity, SS constr., 10 HP

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Unused 1000 Gal. Sanitary 3188S B-K Dbl. Jckd. Change Cam 100&15/100 psl, 120 HP

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Littleford Model FKM-2000, SS w/chopper

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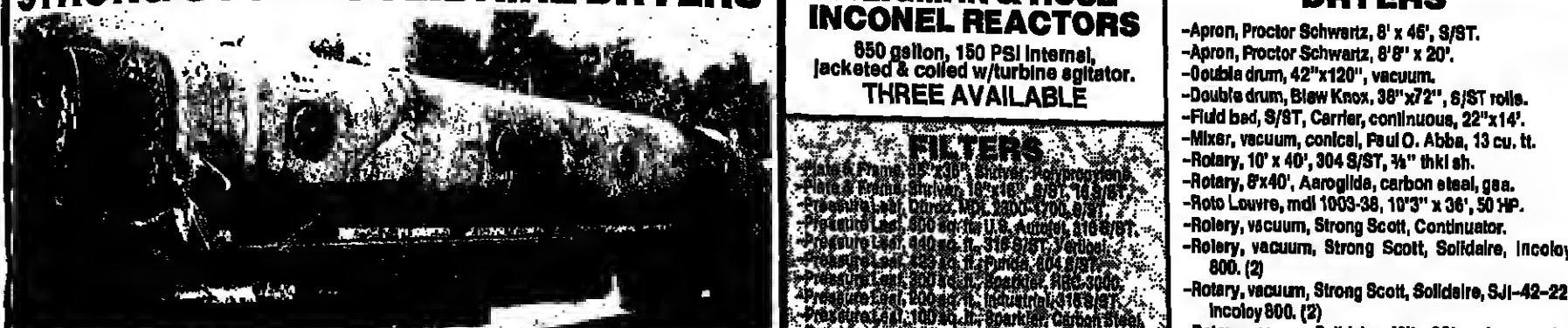
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Mdl SJI-42-22, 42" dia x 22' lg, Incoloy 800 w/carbon steel jacket, 100 HP exp prf mtr. (2)

Mdl SJI-54-32, 54" dia x 32' lg, Incoloy 800 w/carbon steel jacket, 125 HP exp prf mtr. (2)

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8' x 8', S/ST, w/polypropylene belt.

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316 S/ST, mdl CRJ-S84-28, 1100 cu. ft., 150 HP drive, 550 sq. ft. of heat transfer area, 84" dia x 29' lg.

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36" x 72", Inconel, 10 deg. cylinder, 150 HP motor, complete w/washout assembly, gauges, valves, circulating oil-system, oil pump & filter.

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10'3" x 36" lb, mdl 1003-36, complete system Incl 50 HP drive, firebox w/200,000 BTU gas burner, all fans, duct work & controls, multi-cyclone collector, Sly 30,000 CFM baghouse.

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Vibration System For Sale L.A.B. Servo Hydraulic System 36" Table, 200 lb. Payload, 3000 psi pump, Sweep Generator 0.2-500 Hz. Wright Chemical Corporation, P.O. Box 402, Riegelswood, N.C. 28459 (919) 665-2263.

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For Sale Chemical Packaging Plant — Atlanta. Area filling qts, gallons, pails & drums. Flammable liquids. 11 tanks w/35,500 gal capacity. Present filling contracts will continue. Lease thru June 1991. Contact: Jeff Fox 312-750-8872.

For Sale Chemical Packaging Plant — Philadelphia. Filling 4 oz. thru 55 gal. Automatic rotary filling line & several semi-automatic lines. Flammable liquids. 37,000 sq. ft. 45,000 gal. storage capacity. Present filling contracts will continue. Lease thru Jan. 1992. Contact: Jeff Fox 312-750-8872.

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Food Additives/Pharmaceuticals/Fine Chemicals — Experienced salesperson with 8-10 years proven success in the Eastern U.S. market is required by international trading/distribution company. We offer great growth potential for motivated applicant. Please send resume only to: Mr. Lars Petersen, Helm New York Chemical Corporation, 1110 Centennial Avenue, Piscataway, New Jersey 08854.

Sales Representative, Major Pharmaceutical Chemical Producer seeks a well organized, self starter with 3-5 years experience Chem. degree a plus. Offers attractive starting salary, company car and expenses, excellent benefits. Send resume and salary history to P.O. Box #CMR750.

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Grace, Beatrice Eyed in Woburn

Environmental Protection Agency has identified as sources of well contamination in Woburn, Mass. three companies accused by residents of chemically contaminating wells and causing a rash of leukemia deaths.

EPA identified W.R. Grace, Beatrice Foods and Unifirm Corp. in a report reviewed by residents at a City Hall meeting last week. The report said the companies had contaminated Wells G and H, which have been closed since 1979 and are on the Federal Superfund cleanup list.

Two businesses that leaked gasoline into the well field — a truck terminal owned by Olympia Nominee Trust and a Weyerhaeuser paper warehouse — had not been identified previously, according to Barbara Newman, the EPA project officer overseeing the wells.

The findings came from an EPA remedial investigation, which involved three samplings last winter from each of 90 test wells at the Woburn site. The next step in cleanup is preparation of a detailed study, not expected until next fall.

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GAF and Jacobs Increase Stakes

Borg-Warner Corporation is facing a possible takeover attempt by both GAF Corporation and the Minneapolis, Minn. investor Irwin Jacobs. Mr. Jacobs has said that he may seek a takeover, while GAF stated that its present intention is only to make the investment.

GAF, headquartered in Wayne, N.J., said that the company holds 4,239,000 shares of Borg-Warner and that through an agreement with Bear Stearns & Co., they have acquired an option to purchase 4,064,000 Borg-Warner

shares. The shares and the option together account for 9.6 percent of Borg-Warner's outstanding common shares.

GAF said that it intends to purchase more than 10 percent but less than 25 percent of Borg-Warner's shares, and that it is considering a number of possibilities, "including the possibility of a business combination between GAF and that company." GAF adds, however, that management has not yet reached any decision with respect to Borg-Warner.

Mr. Jacobs said that he had raised his stake in Borg-Warner to 7.4 percent, or 6.46 million shares, from 6.1 percent. In his filing with the Securities & Exchange Commission, he stated his previous statement that he might seek control of Borg-Warner.

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H398, H324, 56, 316 SS B-P "Ter Meer"

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Mikro: 4TH, 3TH, 2DH, 26CR, 16H, 8MA

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Ball & Pebble: 6"x12" to 2"x2" (12)

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CHEMICAL PROFILE

TKPP

November 24, 1986

SUPPLY

PRODUCER

Albright & Wilson, Farnell, Ohio
FMC, Carteret, N.J.
FMC, Newark, Calif.
Monsanto, Augusta, Ga.
Occidental, Jeffersonville, Ind.

CAPACITY*

9,000
20,000
5,000
10,000
54,000

*Tons per year of tetrapotassium pyrophosphate. Capsules are flexible as varying amounts of other phosphates are manufactured at the same facilities. Albright & Wilson, a Tennessee subsidiary, acquired the Farnell plant from Mobil in May, 1985. The plant makes only liquid product. Monsanto phased out its 12,000-ton-per-year facility in Kearney, N.J., in the second quarter of this year as it started up the new facility at Augusta. Profile last published 4/1/84; this revision, 11/24/86.

DEMAND

1985: 19,500 tons; 1986: 17,000 tons; 1990: 18,000 tons.

GROWTH

Historical (1976-1985): Minus 7.7 percent per year; future: 0 to 2 percent per year.

PRICE

Historical (1952-1986): High, \$64 per cwt, bags, enhyd., works, E., freight equal; low, \$13 per cwt., same basis. Current: \$64 per cwt., same basis; \$58 to \$63.75 per cwt, bulk solution, same basis.

USES

Liquid cleaners (consumer and industrial hard surface), 80 percent; water and metal treatment, 25 percent; miscellaneous (including styrene-butadiene rubber, drilling muds, liquid dishwasher detergents) 12 percent; exports, 3 percent.

STRENGTH

TKPP has new application or growth potential in such diverse areas as specialty fertilizers, liquid dishwasher detergents, oil drilling muds and liquid bathroom cleaners.

WEAKNESS

Early this year Procter & Gamble reformulated its "Top Job" liquid cleaner away from TKPP, an annual demand loss of 2,000 to 3,000 tons. Production has been cut in half since 1979 due to similar reformulations.

OUTLOOK

Its felt that erosion in the liquid cleaner market has finally ended. TKPP demand should pick up somewhat due to moderate growth in new areas. A rebound in the oil business has the potential to give TKPP a real boost via drilling mud applications.

Monsanto Man

Continued from Page 5

stronger this year than in 1985 is reasonable to expect it will be in 1987.

Most important to the chemical industry is consumer spending on goods and on that basis, adjusted for inflation, Mr. Fillipello says demand has been up by about 4.5 percent this year, "extremely strong for the fourth year of an economic expansion."

Mr. Fillipello admits there are some concerns about the strength of consumer demand next year and he does not treat them lightly. There is concern that the consumer has overspent, continues to have a very low savings rate, is overloaded with debt and has responded to incentives from the automotive industry with pre-tax reform buying that will undoubtedly pull some sales out of 1987.

However, the Monsanto executive points out that there is no reason to be pessimistic about the growth of income in the US. "Historically, the consumer does not stop spending until after his pre-tax income stops growing," he asserts.

In regard to consumer debt, Mr. Fillipello says the debt overhang is not nearly as heavy as it might appear on the surface. The important thing, he says, is not the amount of debt, but the amount of debt service the consumer has to pay.

Because of lengthening maturities on consumer loans and lower interest rates, the amount of debt service has actually been on a downturn in the past four years, Mr. Fillipello says. Overall, it's expected that consumer spending on goods in real terms will increase by 2 to 2.5 percent next year as compared to the 4.5 percent projected for this year.

TAX REFORM IMPACT

As to tax reform, it is generally conceded that capital-intensive companies will be hurt, but Mr. Fillipello is not convinced the impact will be as severe in the chemical industry as had initially been expected.

It's felt the loss of the investment tax credit is important for the near term, but as the tax loss is phased in and companies are able to increase profitability to soften the blow, Mr. Fillipello believes that within three to four years "most of the industry can be on a reasonably neutral basis again and those that are less capital-intensive with less international orientation may actually come out slightly ahead."

International competition, changing economics of the petrochemical industry and the increased "discipline of Wall Street" are other major factors in the new chemical industry, he says.

"The fact that there are corporate raiders out there has, in many cases, enhanced and accelerated restructuring and cost reduction," he adds.

One of the most encouraging aspects in "this very good financial year," he says, is the fact that chemical companies are not sitting back and becoming complacent. Instead, they are considering longer-term concepts such as return on capital and equity.

On this basis, Mr. Fillipello says the US industry does not have a long way to go. Restructuring is not yet finished and cost

reduction programs are still underway, but the industry is incrementally becoming less capital intensive, more technology intensive and in a better position to be competitive in the world economy in the coming years.

"The growth in profitability in the industry is not coming from conducting business as usual, but is coming rather from pursuing technologies of the future, becoming more efficient and concentrating on individual comparative advantages," Mr. Fillipello concludes.

Edward M. Giles, president and director of F. Eberstadt & Co., told the CMA members 1986 has seen a further buildup in discretionary cash flow by chemical companies as the industry is hanging on to a good piece of the benefits provided by lower world oil prices and a drop in the dollar. However, this is viewed as a windfall, but as a deserved reward of some of the restructuring changes within the industry.

A considerable sum of this discretionary income has been allocated to repurchase of shares, Mr. Giles says. Fifteen major companies repurchased about \$1.5 billion in stock in 1983 and 1984 and an additional \$5.5 billion in 1985 and 1986 to date, including nearly \$1 billion by Union Carbide Corporation. By contrast the outflow of these companies now approximates \$35 billion.

NEW GROWTH AREAS

Also, there has been an intensified interest in seeking out new areas of future growth reflected in the move to research and development and acquisition activities.

While Mr. Giles sees these as the two major trends in the industry, he says a development of equal importance has been the steady application of capital to modernization and rationalization of the major commodity plants.

"We're under the impression, for example, that the chloralkali industry, despite all pressures, has more modern plants now than it did ten years ago," he says. "We don't think you can make a case that the chemical plant has been left to rust as the building strides off into new eras and the example of the steel industry does not apply," Mr. Giles adds.

Excluding Union Carbide's dramatic change in capitalization, industry net worth in mid-1986 was about the same as 1981, but debt up 2.5 billion, reflecting the burden of share repurchase and writeoffs. However, profits in 1986 will be nearly double the 1981 levels and up about 40 percent from the pre-1981 levels, Mr. Giles says.

At the end of 1986, Mr. Giles feels the major companies, again excluding Carbide, should have debt to total capitalization of approximately 30 percent and accrued interest coverage which should produce a return on equity of about 13 percent.

Mr. Giles agrees with Mr. Fillipello that 1987 should see modest GNP growth but with better growth in industrial production than in 1986. Chemical industry profits should rise about 20 percent next year.

JOBS & PEOPLE

Witco Appoints Two In Sonneborn Unit

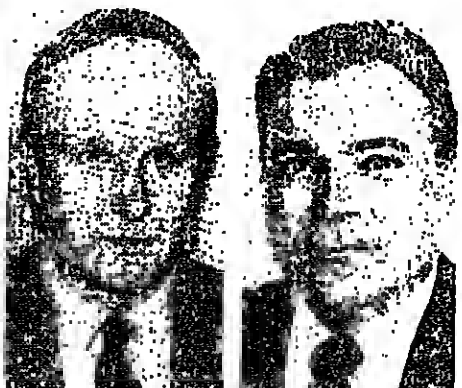
Witco Corporation has appointed Anthony P. Banaszewski technical director at its Petrolio, Pa., plant and Robert N. Williams operations manager at its Gretna, La., plant. Both plants are part of Witco's Sonneborn Division.

Mr. Banaszewski has been with the Petrolio plant since 1976 as a chemist and laboratory superintendent.

Mr. Williams joined the Gretna plant in 1973 and has held a series of technical and production posts. Most recently he was superintendent for white oil and sulfonate production.



Anthony P. Banaszewski, who has been appointed technical director of Witco's Petrolio, Pa., plant.



Robert N. Williams, who has been appointed operations manager of Witco's Gretna, La., plant.

Charles F. Muggeo has been named technical sales representative for the Carbon Black Division of J.M. Huber Corporation. Frank M. Macerato has been appointed operations and planning manager for "Alupak" coaters at Air Products & Chemicals, Inc. Richard A. Winstanley has joined A.E. Staley Manufacturing Company as a sales manager of surfactants in the Western Chemical Division.

Gordon E. Saffold has been named manager of accounting and business information services for Virginia Chemicals Inc. Edmund F. Measom has been elected president of Oregon Process Inc. David C. Baker has been named vice-president of operations for Hubco Services, Inc., a subsidiary of Chemical Leaman Corporation.



Charles F. Muggeo and Frank M. Macerato.



Richard A. Winstanley and Gordon E. Saffold.

Luska has joined the marketing department of Freeman Chemical Corporation as a coating specialist.

John Walsli has been appointed vice-president of the Special Gases Division at Alcoa Distributor Gases, a division of the BOC

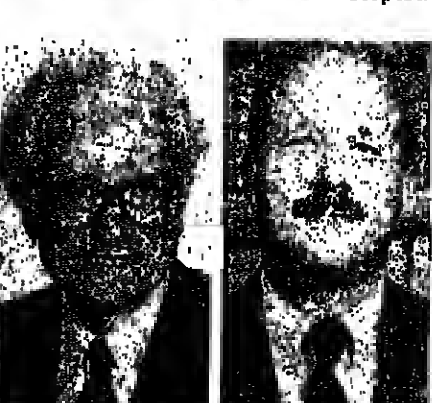


Bill E. Dally, who has been appointed vice-president of customer satisfaction for Dow Chemical Company. He will head on as yet to be announced task force concerned with reviewing ways of assuring customer satisfaction.

Group, Inc. Michael F. Hilton has been named manager of gas applications at Air Products & Chemicals Inc. process systems group and William P. Hegarty has been named principal engineering associate for the process systems group.

Gerard A. Dominy has been appointed laboratory manager for Liquid Carbonic Specialty Gas Corporation's Chicago facility and Edmund F. Measom has been named laboratory manager of the corporation's new laboratory in Orlando, Fla.

Raymond W. Barnes has been appointed manager of engineering services at Betz Paperchem, Inc. Donald A. Backley has been appointed vice-president of market development and technical director of Whitaker Corpora-



Raymond W. Barnes and Donald A. Backley.

Borden Names Two As New Sales Reps

Borden Chemical's Resins & Chemicals Division has appointed Sharon A. Zarifian and Perri L. Caley as sales representatives.

Miss Zarifian will be responsible for sales of Borden's synthetic resin products to the wood products industry in North Carolina, South Carolina and Virginia.

Mrs. Caley will be based in Chicago and represent Borden's Resins & Chemicals Division in the upper Midwest.



Sharon A. Zarifian and Perri L. Caley.

tion's Resins & Chemicals Division. Ray J. Oleson has been elected president of Atlantic Research Corporation's new subsidiary, Systems & Applied Sciences Corporation. Roy S. Hollomon has been appointed director of purchasing in the fibers Division of BASF Corporation.

Carey Jackson has been named manager of quality assurance for polyesters and



Ray J. Oleson and Roy S. Hollomon.

urethanes at Ruco Polymer Corp and Anthony Albanese has been appointed plant manager at Ruco's Hicksville, N.Y. facility. George A. Phillips has been appointed business director of the Distribution Division at Chemtech Industries, Inc.

MEETINGS CALENDAR

November 24, 1986

THIS WEEK

LATIN AMERICAN PETROCHEMICAL ASSOCIATION, 56th annual meeting, Rio Palace Hotel, Rio de Janeiro, Brazil, November 23-25.

DECEMBER

CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION, 73rd annual meeting, Marriott's Harbor Beach Resort, Fort Lauderdale, Fla., December 7-11.

NATIONAL ASSOCIATION OF CHEMICAL DISTRIBUTORS, 15th annual meeting, Ritz-Carlton-Naples Hotel, Naples, Fla., December 2-6.

SALES ASSOCIATION OF THE CHEMICAL INDUSTRY, annual Christmas party, New York Hilton Hotel, New York, December 18; education committee, seminar, "The Psychology of Selling," Treadway Inn, Saddle Brook, N.J., December 18.

LATER ON

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, center for chemical process safety, international conference on chemical safety issues, Omni Shoreham Hotel, Washington, D.C., February 3-5.

ASSOCIATION OF OFFICIAL ANALYTICAL CHEMISTS, 12th annual Spring workshop and exhibition, Skyline Ottawa Hotel, Ottawa, Ontario, Canada, April 27-30.

CHEMICAL GROUP OF NATIONAL ASSOCIATION OF PURCHASING MANAGERS, mid-winter conference, "Purchasing - Opportunity in a Changing World," Baton Rouge Hilton Hotel, Baton Rouge, La., February 19-20.

CHEMICAL MARKETING RESEARCH ASSOCIATION, Houston Meeting: "The US Chemical Industry Responding to Change," Westin Galleria Hotel, Houston, Tex., February 4-5, 1987.

CHEMICAL SPECIALTIES MANUFACTURERS ASSOCIATION, 73rd mid-year meeting, Chicago Marriott Hotel, Chicago, Ill., April 26-29.

CHINACHEM '87, international exhibition on chemical and petrochemical industries, China International Exhibition Center, Beijing, China, April 3-9.

CHLORINE INSTITUTE, winter meeting, Mayflower Hotel, Washington, D.C., March 15-19.

ORIG, CHEMICAL & ALLIED TRADES ASSOCIATION, 81st annual dinner, Waldorf-Astoria Hotel, New York, March 19; Spring luncheon, Sheraton Centre Hotel, New York, N.Y., June 11.

FERTILIZER INSTITUTE, 1987 annual meeting, Marriott Orlando World Center, Orlando, Fla., February 1-3.

FIRE RETARDANT CHEMICALS ASSOCIATION, international conference on flame retardancy and fire safety, Sheraton New Orleans Hotel, New Orleans, La., March 22-25.

INSTITUTE OF GAS TECHNOLOGY, 11th annual symposium on energy from biomass and waste, Hotel Royal Plaza, Walt Disney World Village, Buena Vista, Fla., February 2-6.

INTER-SOCIETY COLOR COUNCIL, scientific conference, Williamsburg Lodge, Williamsburg, Va., May 9-11.

NATIONAL PETROLEUM REFINERS ASSOCIATION, 85th annual meeting, Convention Center, San Antonio, Tex., March 28-31; 12th international petrochemical conference, Convention Center, San Antonio, Tex., April 5-7.

POLYURETHANE MANUFACTURERS ASSOCIATION, Spring meeting, commercial development of new castable systems, Fairmont Hotel, Dallas, Tex., April 28-29.

SOAP AND DETERGENT ASSOCIATION, 80th annual meeting and industry convention, Boca Raton Resort and Club, Boca Raton, Fla., January 29-February 1, 1987.

SOCIETY OF THE PLASTICS INDUSTRY, 46th annual conference of the reinforced plastics and composites institute, Cincinnati Convention & Exhibition Center, Cincinnati, Ohio, February 2-5.

THE FERTILIZER INSTITUTE, 1987 Annual Meeting, Marriott Orlando World Center, Orlando, Fla., February 1-3, 1987.

BUSINESS BRIEFS

BASF CORPORATION has added "Ultra" polyetherketone to its line of high-performance engineering materials. The new product is easily processed in standard and injection molded, extruded or spun. It serves a wide range of applications, particularly for production of thermally-stressed parts.

COMPTON & KNOWLES Corporation has produced a deep-building bright blue dye designed for coloring acetate linings and fiber applications. The new product is part of the company's line of "In-Temp" disperse dyes. C&K says the new dyes possess exceptional fastness to gas fading and are recommended as the base for navy black formulations.

BE PONT is marketing a new consumer glove "unconditionally guaranteed" to provide greater protection against cuts and abrasions. Called "The Ugly Glove," the

product is made of "Kevlar" aramid fiber, the same material used to make bullet-resistant police vests. The material gives the gloves ten times the wear-life of cotton gloves, according to Du Pont.

ICI ADVANCED MATERIALS has added "Victrex" polyetherketone to its range of high-temperature engineering thermoplastics. The material will be available initially in unreinforced and glass fiber reinforced pellet form. ICI says it is easily processed on conventional molding and extrusion equipment and by standard processing techniques.

MONSANTO CHEMICAL Company's Rubber Chemicals Division has donated a Tansometer 10 to Georgia Institute of Technology's School of Textile Engineering. The instrument is used for measuring the tensile and compressive strength of various materials, including fiber, yarns and fabrics.

NATIONAL STARCH & CHEMICAL Corporation has introduced "Bondmaster" Plus 3000, a one-part neoprene "contact cement" for use in spray applications. The product has a 90 percent solids content, and provides fast, uniform coverage in mass production bonding of a wide variety of substrates for laminated panel, desk or countertop construction, National Starch says.

PPG INDUSTRIES has installed a new gas turbine, combined-cycle cogeneration unit at its Lake Charles, La., chemical plant, doubling capacity for lower-cost power and steam to produce chlorine and caustic soda, the company says. The \$50-million-plus unit will save the equivalent of 850,000 barrels of fuel oil a year.

PLASTICS RECYCLING INSTITUTE has changed its name to Center for Plastics Recycling Research. The center, located on the

Busch Campus of Rutgers in Piscataway, N.J., has been designated an "advanced technology center" by the New Jersey Commission on Science & Technology.

SANNCOR INDUSTRIES, Leominster, Mass., has appointed Raw Materials Corporation as sales agent for the Texas area and Helzer Company as sales representative for the Northwest. Raw Materials is based in Houston, and Helzer is based in Lake Oswego, Ore. Sannacor manufactures solvent-based and waterborne urethane polymers for a variety of markets.

UNION CARBIDE Corporation has added "Ucarosol" CR Solvent 402 to its line of high-performance gas treating solvents. It is designed for bulk carbon dioxide removal in natural gas processing, and is effective in both sweet and sour gas streams, the company says.